Economic Reform Group

The Case for a Reduced Rate of Corporation Tax in Northern Ireland

Report

February 10

Northern Ireland Economic Reform Group

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Preface

About the authors

The Northern Ireland Economic Reform Group consists of economists, accountants and businessmen based in Northern Ireland who wish to see a more successful and competitive NI economy, less dependent on a public sector subvention from taxpayers in GB. The group believe that the current range of grant incentives to stimulate investment are by themselves insufficient to promote a narrowing of the wide gap in productivity between NI and both GB and other small EU countries in Western Europe. Constraints set by EU state aid rules are about to make this task even more difficult, and the group take the view that reduced corporation tax is the best way to ensure a rapid acceleration in investment and productivity.

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About the Report

This report examines the costs and benefits of a reduction in the existing corporation tax rates of 28% (for large firms) and 21% (for small firms) down to 12.5%. The choice of 12.5% has the merit of being the same as in the Republic of Ireland, and hence potentially less objectionable to the European Commission which generally opposes regional reductions in corporation tax. We are not however wedded to any particular rate as long as it is sufficiently low to provide a powerful incentive for high value-added multi-national firms to seek to locate in NI.

The report is built upon an earlier study undertaken in 2009 by Corin Taylor then Research Director of the Taxpayers Alliance. We are grateful to the Taxpayers Alliance for making their material available. The current report updates the earlier one and adds substantial new sections on the legal and administrative framework for reduced corporation tax, on the impact of tax reductions on FDI and on the impact of accelerated investment on the wider NI economy. The views expressed in this report are the sole responsibility of those named above.

Executive Summary

The UK's Poorest Region

Twelve years after the Good Friday Agreement Northern Ireland remains the UK's poorest region. It has the lowest average wages and the lowest productivity. Despite having proportionately the smallest private sector, it has suffered the largest percentage loss of jobs of any region during the current recession. Its unemployment rate has risen to the third highest of any region, and a higher percentage of is working-age population are inactive than in any other region.

All of this has happened despite the highest levels of government support for business in any UK region. Virtually every business in manufacturing and agriculture, and most service businesses with export potential, receive generous grants. It is clear that this regime of economic development policy will not turn NI into a self-sufficient economy equal in prosperity to the rest of the UK. As if this were not bad enough, the situation is about to get worse. From next year the EU will begin to reduce the ceilings for the maximum amount of grant that Invest NI is allowed to give to private firms. After 2013 it is possible that no investment grants may be permitted at all. With the last decade's build up in retail investment now largely complete, and with little prospect of a repetition of the recent construction boom, forecasts are that future job growth may be under half that of recent decades.

With a small and under-performing private sector, NI depends heavily on the public sector. Public expenditure has risen to the almost incredible level where it is equivalent to 74% of Gross Domestic Product (GDP). About half of this spending is on the provision of public services and half on social security benefits and other income transfers. Two in every seven people work in the public sector, easily the highest proportion in any UK region. This might not matter if NI was able to finance its public expenditure out of its own resources, but it does not. Instead around half of all government expenditure in NI is financed by tax-payers in GB, and in reality tax-payers in South East England. The subsidy to NI is worth £9 billion every year. This means £5,000 for every person living in NI, or £20,000 a year for a couple with two children.

An Unbalanced Realm

Northern Ireland's dependence on taxes raised elsewhere is merely the most extreme example of a wider problem of an unbalanced UK economy. The three regions of South East England subsidise almost all other regions, and NI most of all. Without this outflow of tax revenues these three southern regions would collectively be better off every year by the huge sum of £42 billion. This would be enough to pay for thousands of miles of new motorway *each year,* as well as paying for many other public projects in these highly congested regions.

The need is to strengthen the private sectors of the weaker regional economies, and most of all the private sector in NI. This will lead to a more balanced NI economy, with a greater ability to finance local public spending, and less dependence on a subvention from taxpayers in South East England. The failure of existing economic development policy to achieve this aim, means that a new path must be found.

The Need for Reduced Corporation Tax

The long history of regional policy across the UK has never adequately addressed these issues. Without radical change it seems inevitable that NI will remain the UK's poorest region, and that South East England will continue to be starved of public investment. The required direction of change has been staring the authorities in the face for several decades. Despite its current difficulties, the Republic of Ireland transformed its economy to a degree unprecedented in the recent history of Western Europe. This success has been built on attracting high value-added inward investment through its low rate of corporation tax. Other

factors, such as EU subsidies, are of minimal importance in this success. Nor has low corporation tax played any significant role in Ireland's current banking and construction crisis.

Some European countries, especially the Nordic nations, have built competitive economies over several decades without a high level of inward investment, and hence without a need to reduce their rates of corporation tax. Ideally, this should also be an aim for NI. However it is more difficult to achieve in a region than in an independent nation, and in any case takes decades to come to fruition. The only policy we know of that can dramatically accelerate economic growth over a short timescale is a reduction in corporation tax. The reason is that lower tax attracts multi-national companies that have already developed highly competitive products and markets positions. The Republic of Ireland has shown that this works, and many other small nations are now following Ireland's lead.

The Impact of Reduced Corporation Tax

This study has used a tax model of the NI economy to estimate the impact of a reduction in corporation tax from the current level of 28% (or 21% for small firms) down to 12.5%. We do not advocate any specific rate of tax, as long as it is low enough to revitalise the NI economy. The 12.5% rate is chosen for illustrative purposes, but also because it may be the lowest rate that would be easily agreed with the EU Commission. The tax model was devised in NI by the Regional Forecasts division of Oxford Economics for an earlier report by ERINI, but has been comprehensively updated and revised for this report.

The model begins with an estimate of the amount of additional inward investment that would be attracted to NI with a 12.5% rate of corporation tax. The estimate for additional investment is based on new evidence on the flow of new inward investment into small countries with differing rates of corporation tax. This evidence shows that all small countries with low rates of tax attract large numbers of new companies to their shores. The model then calculates an impact of low tax on existing companies in NI, including knock-on effects on the wider economy. The aim is to calculate the impact on overall tax revenues, including both revenues lost due the reduction in tax rates and the revenue gained due to higher levels of economic activity.

The results from running the model show that:

- *Total* tax revenues initially fall, but subsequently build up rapidly, with a break even point after only six years. Much of this revenue, in the form of income tax and VAT revenues, would accrue directly to the HM Treasury rather than to the NI Executive. The Treasury would thus be a net gainer of revenue after only six years. After this point the Treasury subvention to NI would begin to reduce.

- Corporation tax revenues are initially reduced by around £200 million, but begin to increase from this lower level as new investment takes place. It would take more than the 20 years considered here for the level of CT revenues to return to its original level.

- As a result corporation tax revenues accruing to the NI Executive remain £100-250 million per annum lower than at the original CT level. (Note that experience in the RoI suggests that *no* reduction may occur, but we have taken a more pessimistic view here).

- The calculations omit any consideration of profit-shifting from GB. Varney estimated net international and domestic profit-shifting at £75 million. We argue below that this is overly pessimistic, but even this level of profit-sharing would delay the break-even point by only one year.

- The *cumulative* loss of overall tax revenue would remain negative for eleven years but there-after would become increasingly positive (Figure 5.3).

The implication is clear. A reduction in CT tax to a level close to that in the Republic of Ireland would quite quickly raise overall tax revenues in NI. The benefits would be widely spread:

- **NI would benefit from a much larger private sector, including 90,000 extra jobs over 20 years. Many of these jobs would have salary levels well above the average for NI. Unemployment should fall back much further than would otherwise be the case.**

- The UK Treasury would gain from additional tax revenues from income taxes, national insurance, VAT etc. This would lead to a smaller subvention to NI. The annual subvention would be reduced by over £1 billion within 20 years.

Public expenditure in NI is likely to need to be reduced due to the reduced flow of corporation tax revenues. This is an EU requirement since EU rules require that a region must fully bear the consequences of a tax reduction and not receive any compensating fiscal flows from the national level. The amount of reduction is unclear. Based on estimates in the academic literature the calculation in this report is the reduction in NI public spending would be around £200 million per annum. Although this sounds large it is only around 2.5% of spending on funding on public services, and is less than the average under-spend in many recent years. Also, the experience of the Republic of Ireland in reducing its corporation tax rates over the last decade was that no reduction in revenues was experienced.

Profit-Sharing and Company Displacement

The Varney Review published in 2007 by H M Treasury estimated a much less favourable impact on tax revenues than that described above. There were several reasons for this. One was that the Varney Review made no allowance for increases in reported profits following a reduction in corporation tax rates, even though studies show this, and though tax reductions in the RoI led to no reduction in revenues. Secondly, the Varney Review made a very low estimate of tax gains from income taxes, VAT etc, for reasons we do not fully understand. Thirdly, the Varney review included estimates for tax losses due to firms moving from GB to NI following a tax reduction, and for existing firms avoiding tax by shifting profits into NI.

The profit-shifting argument is potentially important, although even the Varney Review estimated the net cost at only £75 million. Our view is that this estimate is too high. Firstly, it is argued in chapter six that sufficient legislation exists within the UK to control much profit shifting. Secondly, our view is the Varney Review underestimated the gain to the UK in foreign companies shifting profits into the UK. Displacement due to firms moving into NI to take advantage of low corporation tax is less important. Moves from congested GB regions would release resources that would be taken up by other firms. In addition, some firms would have left the UK without the option of moving to NI, moving for instance to the Republic of Ireland.

EU Rules

It is now clear than EU rules permit a reduction of corporation tax in a region within a member state. While not encouraged by the EU Commission, reduced tax rates were declared legal under the Azores Judgement of the European Court of Justice in 2006. Regions are permitted to have lower rates than their national level under the following conditions:

- The region must have the political and administrative authority to introduce its own tax regime.

- The national Government must have no authority to influence such a decision.

- The region must bear the full fiscal consequences of introducing its own tax regime and in particular must not be compensated by the national authority for loss of tax revenue.

The Treasury initially contested this view in response to requests from the NI Assembly for reduced tax rates, but in the Varney Review conceded that such a change was legal under EU law. A number of other regions, including Gibraltar have subsequently made tax changes under the Azores ruling.

Conclusions

The evidence presented in this report shows that it would be greatly beneficial to NI to have a low rate of corporation tax. There is little reason not to suppose that the gains would be similar to those underlying the 'Celtic Tiger' phenomenon in the Irish Republic. There would also be considerable tax gains for the UK as a whole, leading to a significant reduction in the subvention which currently underpins half of public spending in NI. These UK gains would allow higher levels of infrastructure spending in the congested South East of England.

EU rules require that each region must bear the direct costs of lost revenues following a reduction in tax rates. This could lead to a reduction in funds available for public spending in NI of the order of 2% of spending, but if the Republic of Ireland's experience is repeated may lead to no reduction at all.

Northern Ireland is the ideal region in which to conduct an experiment with low corporation taxes due to its small size and remoteness within the UK. However one objection is that firms may move jobs into NI from other low wage UK regions. This is a possibility, although some firms may have moved anyway, and might have left the UK altogether. If this proved a major issue, our response would be that it presents an argument for also reducing tax in other poor regions. We do not argue that NI is a uniquely deserving case, but rather that low corporation tax is the best means to redevelop the UK's poorer regions and to achieve a more balanced national economy.

1 An Unbalanced Realm

The UK has one of the most regionally unbalanced economies of any major country in Europe. Old industrial regions including Northern Ireland, Wales and North East England have had low employment rates and lagging productivity and wages consistently since the early years of the 20th century. Moreover the gap between the UK's lagging regions and the more prosperous areas of South East England has widened as the service sectors have become increasingly more important than manufacturing. Lower wages and living standards are not just a problem for the regions concerned. Because public services in less prosperous regions have to be heavily supported through taxes raised elsewhere in the UK, public expenditure in prosperous regions is lower than it could otherwise be. The result is under-investment in roads, railways, schools, hospitals, water supplies and many other aspects of public infrastructure. In addition spending on services such as health and education is also lower than it could be. Prosperous regions become congested and their services struggle. Because it is difficult to allocate public expenditure fairly, people living in some regions, notably Scotland, receive better services than those living in England.

The degree of imbalance is huge and would surprise many people. In the Greater South East England (Greater London, South East and East regions) tax revenues are persistently higher than public expenditure (Table 1.1). In all other regions the opposite is true.

Table 1.1 Fiscal Imbalances (tax revenues less expenditure) in UK regions (£ billions)

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Greater London	7.7	10.3	11.4	14.7	15.5	4.3
South East	14.5	12.2	15.0	17.7	18.0	10.1
Eastern	3.8	5.7	4.3	5.8	6.1	0.7
South West	-4.7	-5.1	-5.8	-4.7	-6.1	-10.7
North East	-6.8	-7.1	-7.5	-6.4	-7.1	-9.4
North West	-9.9	-11.2	-10.9	-12.3	-12.1	-19.0
Yorkshire & the Humber	-7.1	-8.1	-8.2	-7.9	-7.9	-12.6
East Midlands	-1.3	-2.0	-2.2	-1.3	-1.0	-5.2
West Midlands	-4.4	-5.3	-6.2	-5.0	-6.1	-10.9
Wales	-8.2	-8.7	-9.3	-9.3	-9.8	-12.7
Scotland	-5.0	-4.0	-0.6	-1.7	-3.8	-3.2
Northern Ireland	-6.6	-7.1	-7.4	-7.1	-7.9	-9.3
UK	-27.8	-41.7	-38.9	-29.8	-34.4	-78.0

Source: Oxford Economics calculations.
Note: This table includes a pro-rata allocation of non-regionally identifiable UK expenditure such as defence etc.

Part of the imbalances shown in table 1.1 are national, in that they reflect the fact that in the UK as a whole expenditure has exceeded tax revenues in every year. If the national deficit is apportioned to regions on the basis of population, the remaining surplus or deficit represents regional transfers of tax revenues across the UK. This is shown in Table 1.2 for the fiscal year 2008/9 (in which the national deficit had risen to £78 billion).

Table 1.2 Fiscal transfers across regions 2008/9

	Share of UK deficit £ bn	Regional Tax transfers £ bn	Regional Transfer per capita £'000	Regional Transfer as % of public Expenditure %
Greater London	-9.7	14.0	1.8	19.0
South East	-10.6	20.7	2.5	35.8
Eastern	-7.3	8.0	1.4	19.9
South West	-6.6	-4.1	-0.8	-10.7
North East	-3.3	-6.1	-2.4	-27.2
North West	-8.8	-10.2	-1.5	-16.9
Yorkshire & the Humber	-6.6	-5.9	-1.1	-14.5
East Midlands	-5.6	0.4	0.1	1.2
West Midlands	-6.9	-4.0	-0.7	-9.3
Wales	-3.8	-8.9	-3.0	-32.6
Scotland	-6.6	3.4	0.6	6.8
Northern Ireland	-2.3	-7.0	-4.0	-39.7
UK	-78.0	0.0	0.0	0.0

Source: *Oxford Economics Calculations.*
Notes: *Share of UK deficit is calculated as each region's share of the UK deficit pro-rata with population. Regional tax transfers are the fiscal imbalances in the final column of table 1.1 less the share of the UK deficit in column 1 of this table.*

Regional transfers out of the three south eastern regions in 2008/9 were £42.7 billion or around £2,000 per person per year (table 1.2). A family of two adults and two children would thus be contributing £8,000 a year. This amount of money would be sufficient to construct three Cross Rail projects *every year,* and sufficient to build some 15,000 miles of motorway every year. The fact that many simple road, and other, infrastructure schemes are delayed for years or decades is due to the fact that tax revenues are diverted to pay for public services in the rest of the UK.

Of the £42 billion transferred out of the Greater South East, one sixth goes to Northern Ireland, over a fifth to Wales and a seventh to North East England. Together these three regions receive £22 billion in transfers each year, or about half of the transfer from the Greater South East. The rest of the transfer goes to the other highly urbanised regions of northern England and the West Midlands, and to South West England.

The point is that most regions outside Greater South East England are unable to support their current levels of public expenditure without borrowing (via the UK national deficit) except through transfers of tax revenues from the three south eastern regions. In Northern Ireland, Wales and North East England the transfers are much larger than the borrowing. If these regions were independent countries they would either have to increase taxes or cut expenditure in order to keep their deficits at sustainable levels. To put the same point another way, the deficit regions are unable to generate sufficient income (GDP) to support their current levels of public expenditure. In Northern Ireland 40% of public spending is funded through transfers. In Wales and the North East the proportion is close to a quarter. If the deficit regions were able to generate GDP per head at the UK average level, the UK economy would function much better and aggregate GDP would be much higher. The deficit regions would be able support their own public spending and the Greater South East would be able to raise its public expenditure by around 20% without raising either taxes or borrowing.

The wide differences in GDP per head between the south eastern regions and the rest of the UK are at the core of the unbalanced nature of the UK economy. Regions that were once the industrial power houses of the UK, and the Celtic Tigers of their day, have never fully restructured their economies in ways that have occurred in for instance the Scandinavian economies.

This situation is not one that should be allowed to continue. Much more attention needs to given to how the poorer regions of the UK can revitalise their economies. The benefits will be more jobs and higher wages in these regions, and higher public spending throughout the UK but particularly in the congested South East of England. Many attempts have been made over many decades to strengthen the economies of NI, Wales and other northern and peripheral regions. However the remedies have always been similar and have only ever been partially successful at best. Currently, such regional policies rely on grants to attract inward investment, increased innovation and higher entrepreneurial activity. Even with an annual expenditure of £150 million such policies have never managed to raise GDP per head in NI much above 80% of the UK average.

This report argues that it is time for a change. In NI we are most aware that the Republic of Ireland completely reformed its economy by attracting high value-added, multi-national companies to locate in Ireland. It achieved this through a low rate of corporation atx, and many other countries are now following its example. This report thus focuses on Northern Ireland and the potential impact of reduced corporation tax in generating higher GDP and hence increased tax revenue. We focus on corporation tax for three reasons:

- Low corporation tax has in our view been the main driver of the Celtic Tiger phenomenon in the Republic of Ireland. Although, as we discuss below, other factors contributed to Ireland's success, we believe these are replicable in Northern Ireland if inward investment can be accelerated via low corporation tax. Although the Republic of Ireland experienced a severe recession in 2009, this has been due to an unsustainable domestic and office construction boom. It has not in our view had any connection to inward investment or low corporation tax.

- There are few other alternatives to generate a substantial acceleration in GDP growth in NI. Northern Ireland currently has a particularly generous regime of grants, but this will be increasingly constrained under EU state aid rules from 2011. More-over, despite expenditure of £150 million per annum through Invest NI, there has been no convergence in per capita GDP towards the UK average in recent decades.

- While some small European countries have generated high productivity 'knowledge-based' economies, this has taken decades to achieve, and has usually relied on the powers available to an independent state but not an individual region of a larger state. DETI have commissioned research to examine policies in successful countries including Finland and Sweden but lessons from these sovereign states would be difficult to apply.

The prize is a restructured and much more prosperous NI economy, closer to fiscal sustainability within the UK and no longer needing to depend on tax-payers in South East England to support a substantial part of its public services. In the next section we describe the salient characteristics of the NI economy and then outline the findings of research on the potential impact of reduced corporation tax. We then apply an updated version of an Oxford Economics tax model to estimate the costs and benefits of a reduced corporation tax. Finally, the report examines the legal and administrative difficulties in moving to an independent corporation tax regime in a single region of the UK. Although Northern Ireland is far from the only UK region which we believe could benefit from lower corporation tax, there are good reasons for focussing on Northern Ireland as a test case. It is sufficiently isolated from the rest of the UK to ease the identification of the administrative difficulties in moving to variable corporation tax in a single region within the UK. Its land border with the Republic of Ireland, and hence a need in some cases to compete with the RoI, makes it natural to apply a similar low rate of corporation tax in NI. This would then allow NI to emulate the other factors underlying the Republic's success in attracting foreign direct investment (FDI).

2 The Northern Ireland Economy Today

NI has been the UK's fastest growing region over the last two decades but growth has been stronger in employment than for GDP. As a result GDP per head and productivity (GDP per employee) have languished, and wages remain among the lowest in the UK. There is a common perception that the Good Friday Agreement in 1998, and devolution since 1999, brought obvious economic benefits to Northern Ireland. While it is true that the period 1998-2008 saw consistent growth in NI, this was also a period of consistent rapid growth throughout the UK for reasons unconnected with NI. A closer look at the region's economy reveals that NI grew faster than other peripheral regions over the period since 1998 but only by 0.7% per annum, and productivity and wages continued to fall further behind the UK average. Some things have improved since 1998. Inward investment in call centres accelerated greatly once the danger of disruption by bomb damage or hoax calls diminished. However, many of the call centre jobs pay low wages, and have not resulted in convergence in productivity towards the UK average. Investment in retail and hotels was also buoyant, but not markedly more so than prior to 1998.

In fact, NI's best period was from 1988-1995 when growth was much faster than in GB due to a range of factors. Most important among these factors were the low levels of household and corporate debt during the years when high interest rates tipped the GB economy into the recession of 1990-92. Since then, continued growth in jobs has come at the expense of slow growth in productivity. **The overall picture has been one of a low wage region able to generate employment growth, mainly in low wage activities, but with productivity and wages consistently falling further behind the UK average.** On the most widely accepted measure of economic well-being, GDP per head, NI has remained close to 80% of the UK average for several decades, with improving employment rates offset by declining productivity relative to GB.

NI's inability to improve on its position, with per capita GDP at 20% below the UK average, led the Department of Enterprise, Trade and Investment (DETI) to set up an independent review of economic performance in NI (IREP) in 2008. The Review was critical of a range of aspects of economic development policy in NI. These included governance and capacity for policy-making. With respect to Invest NI, while the Review recognised a good record in attracting new call centres to NI, criticisms included:

- blanket subsidies for investment in manufacturing and tradable services,
- large-scale spending on established firms,
- the low wage nature of many investment projects
- inability to raise R&D spending above one of the UK's and EU's lowest levels, and
- failure to generate convergence towards GB in productivity
- low levels of true additionality in investment grants.

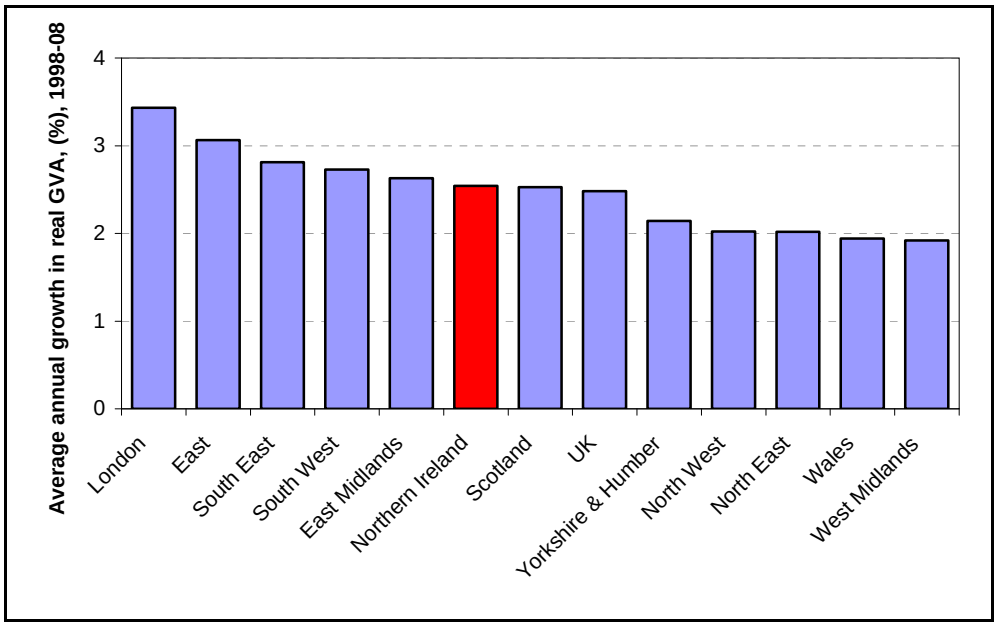
The NI Executive has adopted a key PSA target of halving the productivity gap with GB (excluding the Greater South East) by 2015, but appears to have no means of achieving this laudable aim. The IREP report in 2009 drew attention to the reduction in permissible ceilings for investment grants to private firms under EU state aid rules. Reductions begin in 2011. After 2013 the ceilings could be reduced to zero. This will leave NI with limited means to generate jobs as well as its existing inability to raise productivity growth above a low level. Now that the construction boom is unlikely to be repeated, and with retail investment having reached saturation level, the outlook for future job growth is unfavourable. Oxford Economic's forecasts suggest a reduction in annual job creation from 13,000 jobs a year down to 5 - 7,000.

It is this gloomy prospect that has led to a renewed focus on reduced corporation tax as a means of generating growth in both jobs and productivity. We take up this case in chapter 3, but in this chapter present the evidence for the strengths and weaknesses of the NI economy today.

2.1 Economic Growth and productivity

Since the Good Friday Agreement, real Gross Value Added (GVA) has grown only slightly more quickly in Northern Ireland (2.54 % per annum) than in the UK as a whole (2.48% per annum) although the province's growth rates compare well with the other regions of the UK outside the Greater South East of England.[1]

Figure 2.1: Annual average growth in real GVA, 1998-2008 (Workplace-based)



Source of data: ONS UK Regional Accounts 2009

GVA *per head* in Northern Ireland, however, has fallen below 80 per cent of the UK average, a similar percentage as in 1998.[2] The difficulty in achieving convergence with the UK average is partly due to London's increasing dominance of the UK economy in recent years – GVA per head in London increased from 142 per cent to 155 per cent of the UK average between 1998 and 2008[3]. Compared with the UK excluding the Greater South East[4] the picture is better. GVA per head in NI is 91% of the average, the same level as it was a decade ago. NI also remains well below the levels for small countries in Western Europe. In 2007 GDP per head in NI was between 25-40% below the levels of Nordic countries, Ireland, Austria and Switzerland[5]. GNP in the Republic of Ireland was 30% above GDP in NI at purchasing power parity. While this gap has been reduced by about 5% due to the deeper recession in the RoI, the gap remains wide.

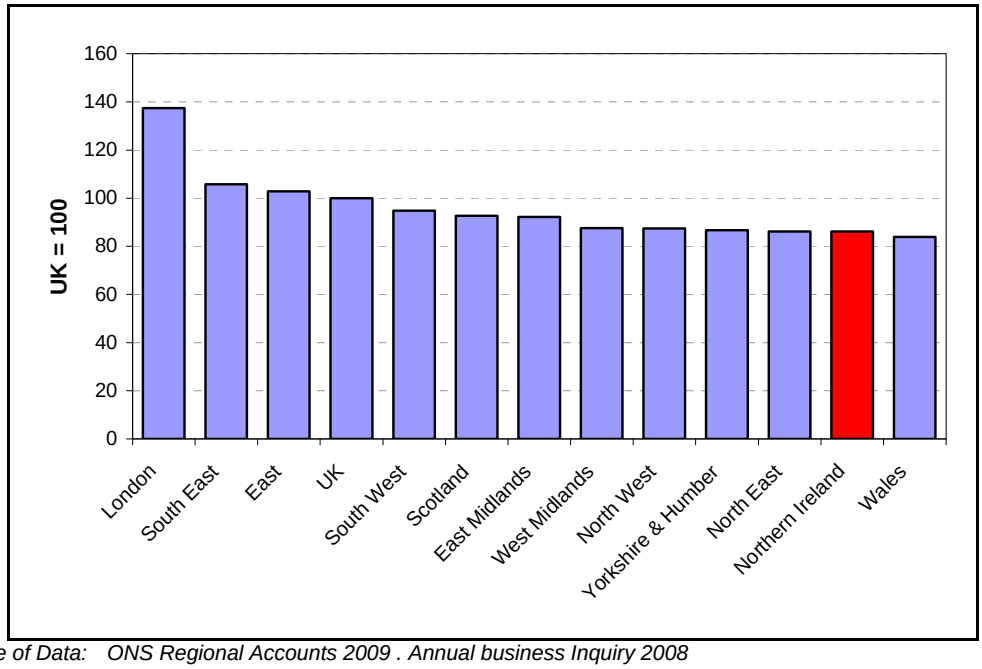
2.1.1 Productivity

Northern Ireland has close to the poorest productivity performance of any UK region. Productivity per hour worked is 83.9 per cent of the UK average, the worst of any region, while productivity per filled job is 86.2 per cent of the UK average, with only Wales performing

[1] NUTS1 GVA (1989-2007) Data, Office for National Statistics, Table 1.1 'Headline Gross Value Added (GVA) at current basic prices by region 1989 to 2007' (http://www.statistics.gov.uk/statbase/product.asp?vlnk=14650); GDP deflators, HM Treasury, March 2008. NB: UK figures include spending which cannot be broken down regionally.
[2] Ibid.
[3] Residence-based
[4] The Greater South East includes Greater London, the South East and the East of England regions.
[5] National sources converted to PPP in 2000 values. Ireland is GNP rather than GDP to allow for distortion ns due to repatriation of profits by multi-national companies.

worse[6] (Figure 2.2). Northern Ireland's relative productivity performance has, if anything, declined since the start of the decade – in 2000, productivity per hour worked was 87.4 per cent, and per filled job 90.4 per cent, of the UK average.[7] On an international scale using OECD measures of hours worked and GDP deflated by PPP measures, NI's productivity per hour in 2007 was at 75% of the US average. The Republic of Ireland scored 91% and the UK just 87.[8] The Nordic countries and Switzerland had productivity per hour at 10-20% above the NI level, and Austria was even higher at 24% above NI.

Figure 2.2 Regional productivity (GVA per employee) (UK=100), 2008



Source of Data: ONS Regional Accounts 2009 . Annual business Inquiry 2008

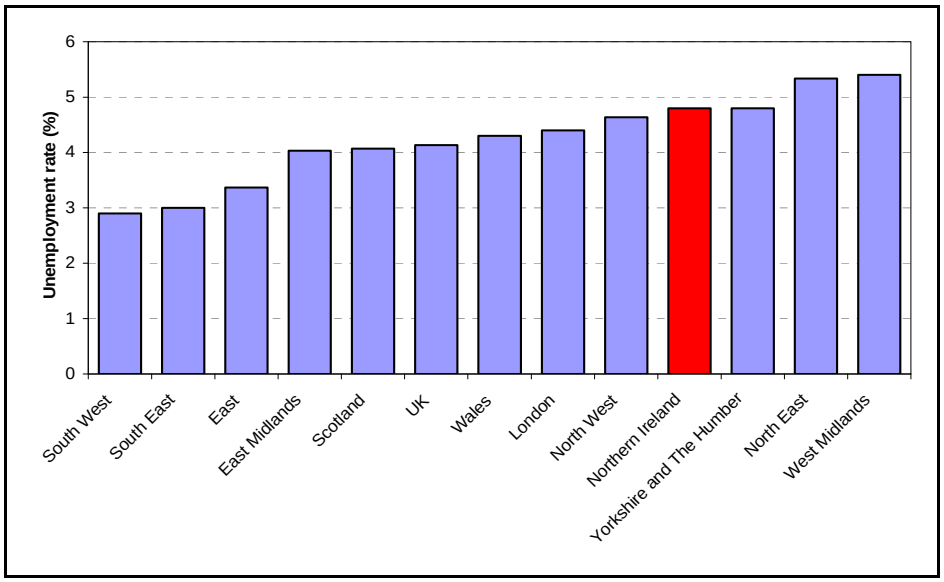
2.2 Labour markets

The unemployment rate in Northern Ireland had fallen impressively since the Good Friday Agreement before doubling in the current recession. Claimant count unemployment was down from 13 per cent in 1992 to just 2.8 per cent in 2007. This was a larger decline than in the UK as a whole – over the same period the UK unemployment rate fell from 9 per cent to 2.7 per cent. In 2007 NI was around the middle of claimant count unemployment rates for UK regions, but during the current recession has risen to the third highest unemployment of any region after the North East and the West Midlands (Figure 2.3).

Other measures of labour market activity suggest considerable weakness. Northern Ireland has the lowest economic activity and employment rates of any UK region, at just 71.2 per cent and 67.0 per cent of the working age population, respectively, in the 2nd quarter of 2009[9] (Figures 2.4 and 2.5)

[6] NI performs particularly poorly on a GVA per hour measure chiefly because of the high numbers of hours worked recorded by NI's large farming community.
[7] Office for National Statistics, 'Productivity 1st Quarter 2008', First Release, 30 June 2008, Table 8
[8] GDP from national sources deflated by 2000 PPPs and divided by OECD hours worked, expressed relative to the USA (USA=100), 2007
[9] Office for National Statistics, Labour Force Survey, Table 42, 'Summary for all regions (all persons)', not seasonally adjusted.

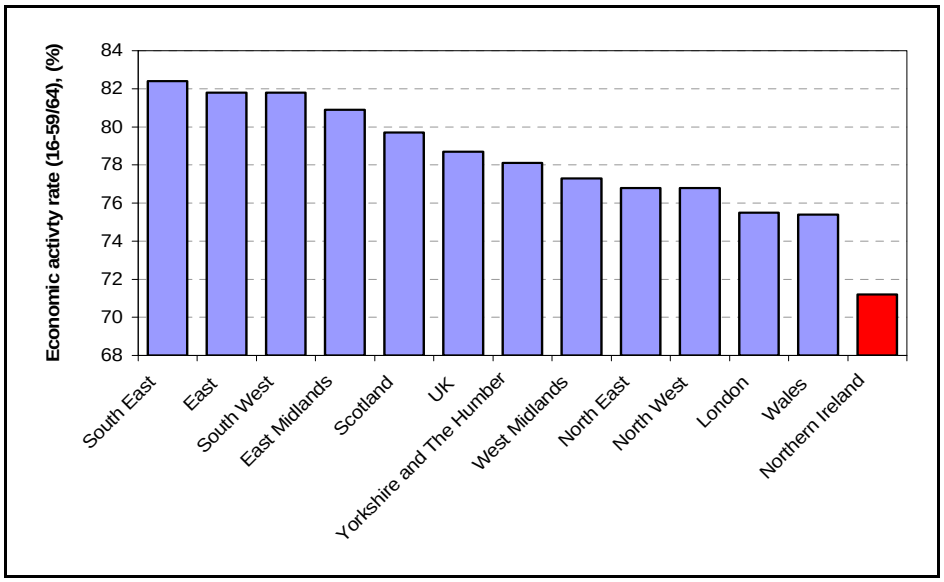
Figure 2.3: Regional unemployment rates, Q4 2009



Source of Data: ONS Claimant Count

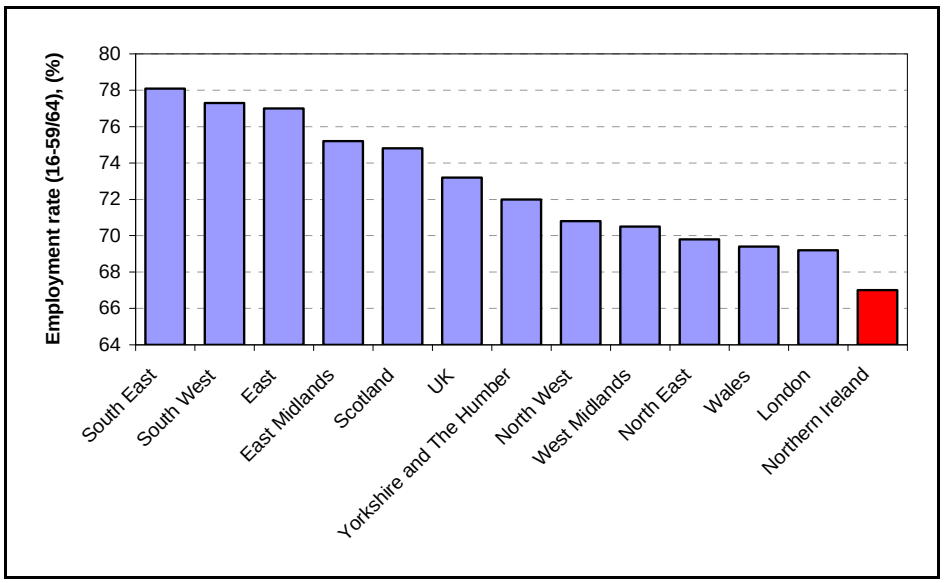
Despite the favourable record of job creation in NI, the proportion of the population in employment has remained well below the UK average. For much of the last decade of job creation, many jobs, especially those in low wage sectors, were taken by immigrants from Eastern Europe and NI experienced substantial net in-migration for the first time in its recent economic history. This suggests a benefit trap perhaps exacerbated by a lack of either skills, or unwillingness to work in low paid jobs among sections of NI's working-age population.

Figure 2.4: Regional economic activity rates (16-59/64), Q2 2009



Source of Data: ONS Annual Population Survey

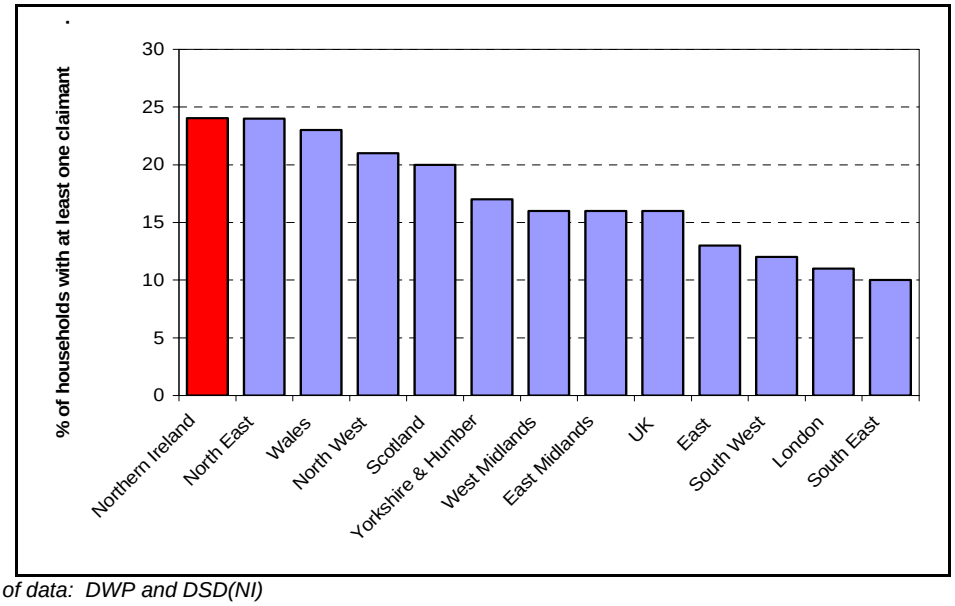
Figure 2.5: Regional employment rates (16-59/64), Q2 2009



Source of Data: ONS Annual Population Survey

As in some parts of GB with long histories of high unemployment, high proportions of people have moved onto incapacity benefit (Figure 2.6). These people are not recorded as unemployed, and many may regard themselves as effectively retired, but surveys show that many would prefer to work. Eighteen per cent of working-age households in Northern Ireland have no-one working, compared to 16 per cent in the UK as a whole, while 24 per cent of all households receive some form of incapacity or disablement benefits, the highest proportion of any region and far above the UK average of 16 per cent.[10] This suggests that reform of social security should be one aspect of policy changes aiming to raise employment rates and hence GDP per capita.

Figure 2.6 Households in which at least one member is in receipt of incapacity or disablement benefits, 2006/7, (per cent)



Source of data: DWP and DSD(NI)

[10] Office for National Statistics, 'Regional Trends', No.40, 2008, Tables 8.8 and 8.9. These benefits include Incapacity benefit, disability living allowance, severe disablement allowance, disabled persons tax credit, industrial injuries disablement benefit, war disablement pension.

2.3 The size and impact of the public sector

The NI economy is heavily dependent on the public sector. In 2008-09, public spending (including NI's share of national public services) made up 73 per cent of the province's GVA, compared with 48 per cent for the UK as a whole (Table 2.1). Northern Ireland has consistently had the highest public spending to GDP ratio of any UK region. By comparison, on a separate OECD measure, public spending in the Republic of Ireland was just 33.8 per cent of GDP in 2006 compared to 44.2% in the UK.[11] The highest levels among OECD countries were 54% in Sweden and 53% in France. Most other Nordic countries were close to 50%. The huge size of public spending in NI, and also in Wales, Scotland and North East England, is a measure of the unbalanced nature of the UK. A country which has to support major regions to this extent can hardly be said to be functioning normally.

Identifiable public spending per head in Northern Ireland was £9,789 in 2007-08, compared with £7,535 in England, a gap of almost 30 per cent[12]. While this gap has been falling since the late 1980s, it remains high, and has actually increased slightly in the last three years.
Northern Ireland's "spending gap" is made up of two elements:

- **Public service provision**. NI has higher levels of public spending in almost all programme areas except transport. The largest excesses over and above the UK average are in agriculture and housing. Spending on these programmes was almost £2.5 billion above the level of spending in England in 2008/9.

- **Social security payments and other 'transfers**. NI has a 50% higher level of social security claimants than the UK average and has higher claimant rates in all major classes of benefit. The additional cost of social security in 2008/9 due to higher numbers of claimants was £1.1 billion.

Table 2.1 Public Spending as a share of GDP by UK region (%)

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
N. Ireland	70	70	71	70	72	73
Wales	64	65	66	67	67	70
North East	61	62	63	62	63	65
North West	52	54	55	55	56	58
Scotland	54	54	56	56	56	56
York & Humber	50	51	53	53	53	55
W Midlands	47	49	51	51	52	54
South West	48	49	51	50	51	52
UK	**46**	**47**	**48**	**48**	**48**	**49**
E Midlands	44	46	47	46	47	49
Eastern	38	37	39	39	39	41
South East	34	36	37	36	37	38
London	35	36	36	36	36	37

Source of data: Oxford Economics calculations based on PESA identifiable regional expenditure and ONS UK Regional Accounts 2009 GVA is residence-based
Note: 2008/9 figures are estimated. PE includes region's share of UK non-identifiable expenditure

[11] OECD Government at a glance 2009. General Government Total Outlays per cent of nominal GDP
[12] Identifiable public expenditure is spending in the region for the benefit of the region. It thus excludes defence, embassies, monarchy etc.

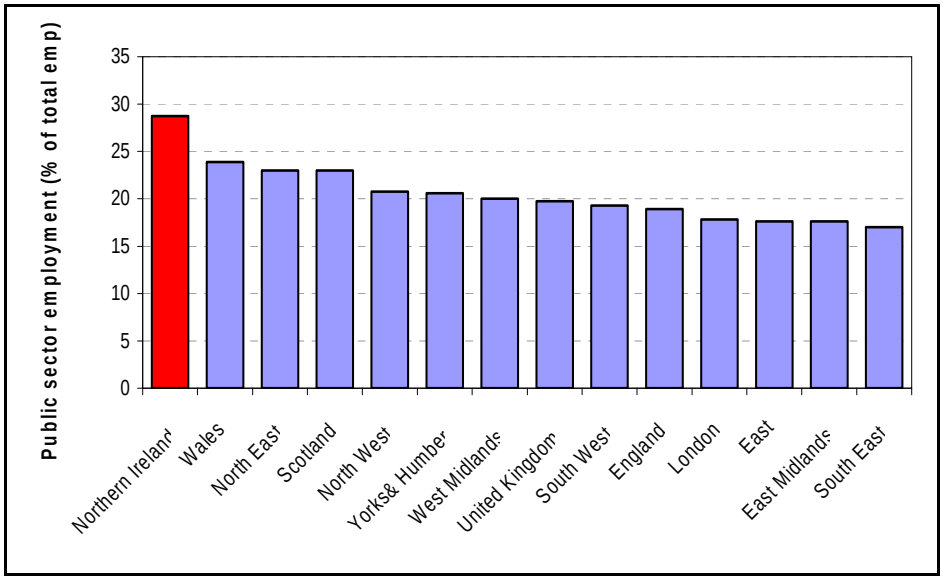
Table 2.2 Social Security Claimants per '000 Population. 2008

	UK	NI	Ratio
Job Seekers Allowance	14.2	13.7	1.0
Incapacity Benefit	42.9	62.9	1.5
Income Support	34.4	54.0	1.6
Carers Allowance	8.0	28.4	3.6
DLA	48.9	98.8	2.0
Widow / Bereaved	2.2	2.9	1.3
Housing Benefit	68.0	73.8	1.1
Pension Credit	44.4	54.4	1.2
Attendance Allowance	25.5	34.2	1.3
Total	**288.3**	**423.1**	**1.5**

Sources of data: DWP, DSD(NI)

The public sector employs almost 29% per cent of employees and self-employed people in NI (Figure 2.7). This is easily the highest proportion of public sector workers of any UK region and is two-third higher than the average in the Greater South East. The 28.8% compares with a public sector employment rate of 19.8 per cent across the UK[13] and just 17.3 per cent in the Republic of Ireland.[14]

Figure 2.7 Public Sector Employees (Share of Total Employees), 2008



Source of data: Regional Analysis of Public Sector Employment Sept 2009
Note: Workplace-based

The large public sector inflates measured productivity NI. This is because wages in much of the public sector are set at national levels, and are considerably higher than in the local private sector. Public sector earnings in NI are 29.7 per cent higher than private sector earnings. The average public/private earnings gap for the UK as a whole is only 3.3 per cent.[15] If public sector wages in NI were set in line with local private sector earnings, then GDP per head would be well below the current level of 80% of the UK average.

[13] Q4 2007, headcount, seasonally adjusted. Office for National Statistics, 'Regional analysis of public sector employment', Economic and Labour Market Review, July 2008, Table 2

[14] Central Statistics Office Ireland. Public sector employment of 362,000 (headcount) in March 2007 (http://www.cso.ie/releasespublications/documents/earnings/2008/psempearn_q12008.pdf) compared to total employment of 2,095,400 (headcount) in March-May 2007 (http://www.cso.ie/statistics/empandunempilo.htm).

[15] Varney, Sir D., 'Review of Tax Policy in Northern Ireland', HM Treasury, December 2007, p.8

Ultimately, the economy of Northern Ireland is propped up by a huge subsidy from the rest of the UK.[16] In 2008/9 public expenditure in the region was £17.7 billion (or £21 bn including an allocation for defence and other national services) compared with just £11.5 billion raised in taxes – a gap of £9.3 billion (including NI's share of the cost of national services).[17] This gap was equivalent to 40 per cent of its spending or 36 per cent of its GVA.[18]

Given that Northern Ireland stubbornly lags behind the rest of the UK, not to mention the Republic of Ireland, in productivity and income per head, continuing the current level of subsidy in the current way is surely not the most efficient use of taxpayers' money, nor does it promise any fundamental shift in Northern Ireland's economic situation.

[16] In fact, only three UK regions – London, the South East and the East of England – are net contributors to the public finances. Northern Ireland is by far the most heavily subsidised region.
[17] Oxford Economics, 'Regional winners and losers in UK public finances', July 2008, Table 7. DFP have recently published a 'NI Net Fiscal Balance Report (Sept 2009). This provides an estimated balance of -£6.682 for NI in 2006/7, including an allocation for defence and other national services. This is slightly smaller than the Oxford Economics estimate of £7.1 billion for the same year.
[18] NUTS1 GVA (1989-2006) Data, Office for National Statistics, Table 1.1 'Headline Gross Value Added (GVA) at current basic prices by region 1989 to 2006'

3 A better way – tax and spending reform. Lessons from abroad

Northern Ireland's present economic path is not set in stone. Looking at the recent history of other European and OECD economies, two trends become apparent. Firstly, the size of the public sector relative to GDP has been on a downward trajectory, with a number of countries making large and beneficial reductions in their public sectors. Secondly, corporation tax is heading in only one direction – down. Both these lessons are especially pertinent to Northern Ireland.

3.1 Falling spending-to-GDP ratios

An examination of other countries shows that bringing down Northern Ireland's high public spending-to-GDP ratio is not only possible, but highly desirable. In particular large reductions have been made in the competitive Nordic economies which formerly had public expenditure levels close to those in NI. Advantages could be realised for both the NI and UK economies if benefits levels could be reduced in NI[19], leading to higher employment rates, and if public services could be delivered with fewer public sector employees. Too many of NI's better educated and skilled workers are within the public sector. Although most do a good job, they are unlikely to contribute to growth in the NI economy through company formation or innovation.

Over the past 15 years, since the end of the recession of the early 1990s, spending restraint has occurred across the OECD[20]:

- Out of 28 OECD countries, 23 reduced spending as a share of GDP between 1992 and 2008.
- Leaving aside Eastern European countries (which are arguably a special case given their transition from planned to market economies over the last two decades) Sweden, Norway, Canada, Finland and the Republic of Ireland have all reduced their spending-to-GDP ratios by at least 10 percentage points since 1992. With the exception of the Republic of Ireland, each of these countries began with a spending-to-GDP ratio of at least 50 per cent in 1992.
- This is especially pertinent given Northern Ireland's current ratio of public spending to GDP. None of the above five countries are viewed as having inadequate public services or poor welfare provision.

Significant spending restraint has proved highly beneficial to the economies of these five countries[21]:

- Average real GDP growth between 1993 and 2008 in each of these five countries exceeded the OECD average.
- In each of these five countries except Sweden, unemployment (on the OECD's standardised measure) was considerably lower in 2008 than in 1992. Unemployment in the Republic of Ireland fell by 9.1 percentage points over this period, compared with a fall of 1.4 percentage points across the OECD. All countries have subsequently suffered recession and it remains to be seen where unemployment levels will settle, but unemployment has risen particularly rapidly in NI (and even faster in the RoI).

[19] Although any cost savings on benefits currently accrue directly to HM Treasury and not to the NI Executive, but arrangements could be made to share any savings from better management of benefits in NI.
[20] OECD Economic Outlook No. 81, May 2007, Annex Table 25: General Government Total Outlays per cent of nominal GDP
[21] OECD Economic Outlook No. 81, May 2007, Annex Table 1: Real GDP percentage change from previous year, Annex Table 14: Standardised unemployment rates per cent of civilian labour force, Annex Table 33: General government net financial liabilities per cent of nominal GDP

Table 3.1: Spending-to-GDP ratios in OECD countries[22]

	Public spending, 1992, per cent of GDP	Public spending, 2008, per cent of GDP	Change in spending-to-GDP ratio, 1992-2008, percentage points
Slovak Republic**	56.1	34.9	-21.2
Sweden	69.8	51.9	-17.9
Norway	55.7	40.0	-15.7
Finland	62.2	48.4	-13.8
Canada	53.3	39.7	-13.7
Czech Republic*	54.0	41.7	-12.2
Netherlands	55.7	45.5	-10.2
Hungary	59.5	49.6	-10.0
New Zealand	49.4	41.1	-8.3
Italy	55.4	48.7	-6.7
Denmark	57.0	51.3	-5.7
Spain	45.4	40.5	-4.9
Austria	53.5	48.7	-4.8
Poland*	47.7	43.1	-4.6
Australia	38.3	34.0	-4.3
Ireland	44.9	41.0	-3.9
Euro area	**50.6**	**46.8**	**-3.8**
Belgium	53.7	50.0	-3.7
Germany	47.3	44.0	-3.3
Switzerland	34.2	32.9	-1.3
Total OECD	**42.3**	**41.5**	**-0.8**
United States	38.5	39.0	0.5
Luxembourg	40.1	40.7	0.6
Greece	44.3	44.9	0.7
France	52.0	52.7	0.8
Portugal	44.5	45.9	1.4
United Kingdom	45.2	48.1	2.8
Japan	32.5	37.1	4.6
Korea	21.0	30.3	9.3
Iceland	40.5	57.7	17.2

**1992 figure not available, 1995 figure used*
***1992 figure not available, 1994 figure used*

[22] Annex Table 25: General Government Total Outlays per cent of nominal GDP, OECD Economic Outlook No. 81, May 2007

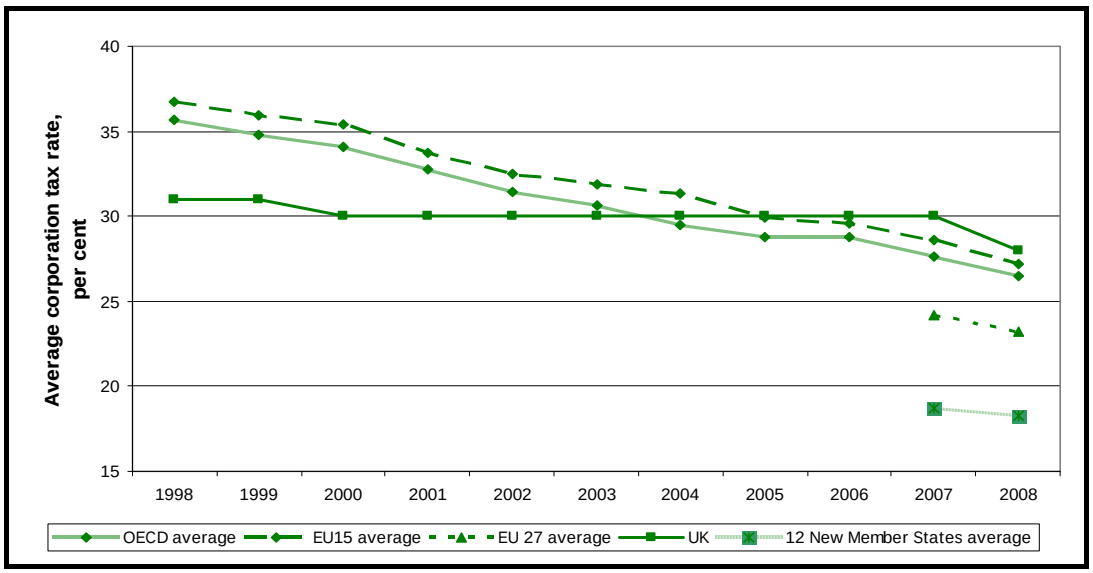
3.2 Corporation tax reductions

The Northern Ireland Assembly does not have tax-varying powers. As a result, since the Good Friday Agreement, the region has shared the UK's increasingly uncompetitive rate of corporation tax:[23]

- In 1998, there were 20 OECD countries with a higher rate of corporation tax than the UK. This year, even with the UK's cut from 30 per cent to 28 per cent, there are just 12. The UK's corporation tax remains above the OECD average.
- In Europe, the picture is even starker. The UK's rate of corporation tax has fallen slightly, but at a far slower rate than in other European countries. In 1998, the EU15 average corporation tax rate was 36.8 per cent, compared with 31 per cent in the UK. In that year, the UK had the 3rd lowest rate of corporation tax in the EU15. The EU15 average rate has now fallen to 27.0 per cent, compared with a UK rate of 28 per cent, which is the 7th highest rate in the EU15.
- The UK now has the 8th highest rate of corporation tax in the 27 EU countries. The EU27 average corporation tax rate is 23.2 per cent.
- The average rate of corporation tax among the 12 new member states of the EU (since 2004) is 18.3 per cent. Only one of the new member states – Malta – has a higher rate of corporation tax than the UK.

Figure 3.1 shows how quickly the UK has gone from a below average to an above average corporation tax rate, even after the cut to 28 per cent in 2008.

Figure 3.1: Average corporation tax rates compared with the UK, 2000-2008



Source of Data: OECD

The Treasury is fond of pointing out that the UK has the lowest rate of corporation tax in the G7. This is a reasonable point for large countries where the size and diversity of local markets attract international investment even at high rates of corporation tax. However this leaves out of account the unbalanced nature of the UK economy and the need to stimulate growth and productivity in the regions beyond the Greater South-East. In particular, NI does not have the advantage of a large and diverse home market. NI's main attractiveness is now to call centres seeking low wage graduate labour. Manufacturing companies considering the island of Ireland have a strong incentive to locate south of the border. Very few now locate in NI.

[23] KPMG Corporate and Indirect Tax Rate Survey 2009

3.3 The Success of the Republic of Ireland

The current reversal of economic fortunes in Ireland should not be allowed to obscure the achievement of the previous 20 years, particularly in developing an exceptionally strong, modern, export-oriented business base. A major contributor to Ireland's export performance in both manufacturing and services has been its success in becoming host location to multinational companies in key high value-added sectors like pharmaceuticals, medical devices and ICT. As the Republic's Government acknowledges, Ireland's very competitive corporation tax regime played a crucial role in attracting such investors and it has made clear that, notwithstanding the current pressure on the public finances, this competitive advantage will be maintained. The transformation was such as to merit the description of 'economic miracle'.

The story of how successive Irish governments transformed the country's tax system, turning Ireland into one of the world's best performing economies, has been extensively documented. But the evidence is so strong and convincing that it is worth recounting again, to show just what could be possible in Northern Ireland.

In 1987, Ireland's economic position was precarious, with stagnant growth, high unemployment, spiralling deficits and the IMF threatening to intervene in the Irish economy. The 1987 Budget began a process of major economic reform, cutting spending drastically to bring the deficit under control.[24] The next Budget continued the fiscal consolidation: current spending was reduced by 3 per cent and capital spending by 16 per cent.[25] These spending reductions were accompanied and also followed by major and continuing tax cuts:

- The main standard corporation tax rate was steadily reduced from 50 per cent in 1987 to 12.5 per cent in 2003. However, it should be noted that Ireland has had a low, 10%, corporation tax rate for exporters since 1957 and this has played an important long-term role in building up a large foreign-owned manufacturing sector[26]. Ireland also had no reduced rate for small firms as in the UK. The current 12.5 per cent rate remains, apart from Bulgaria and Cyprus, the lowest main rate of corporation tax in the EU. Special rates of corporation tax that favoured certain industries, such as the 10 per cent rate on manufacturing and Dublin's International Financial Services Centre, were abolished in favour of one low rate for all companies in the early 2000s.
- Personal tax rates were steadily reduced from 35, 48 and 58 per cent in 1987 to 20 and 42 per cent by 2001. In 2007, the top rate was reduced to 41 per cent. [27]
- In 1998, the capital gains tax rate was reduced from 40 per cent to 20 per cent and special capital gains tax rates abolished.

These tax reductions and simplifications, together with a range of policies to improve education and increase economic freedom, helped transform the country's economic fortunes:

- Ireland's growth "miracle" is well known. Between 1993 and 2008 real GDP grew at an average of 6.8 per cent.[28] GNP, which excludes profits made by foreign companies, has been increasing almost as quickly. GNP grew by an average of 4.4 per cent between 1990 and 1995, 8.8 per cent between 1995 and 2000 and 3.5 per cent between 2000 and 2008.[29] GDP fell by 8.5% in the first quarter of 2009 compared to the same period a year earlier and the GNP by a staggering 12%. Much

[24] Honohan, P., 'Fiscal Adjustment and Disinflation in Ireland: setting the macro basis of economic recovery and expansion', in F. Barry (ed.) 'Understanding Ireland's Economic Growth', 1999
[25] Powell, B., 'Economic Freedom and Growth: the case of the Celtic Tiger', CATO Journal, January 2003
[26] Ireland came under EU pressure to move away from discriminatory tax relief for exporters and decided to reduce its corporation tax rate for all sectors, harmonising this at 12.5% in the early 2000s.
[27] Budget 2007, www.revenue.ie
[28] OECD Economic Outlook No. 85, Database, Annex Table 1: Real GDP percentage change from previous year
[29] Central Statistics Office Ireland. Gross Domestic Product and Gross National Product at 2006 Prices by Quarter and Statistic

of this reduction has been in finance, construction and dependent services. Manufacturing has been much less affected with output levels broadly unchanged between 2008 and 2009.

- Deficits were brought down below 3 per cent of GDP from 1990-1995. In 1997 the economy moved into surplus and remained in surplus until the global financial crisis began last year.[30] But in 2008, there was a deficit in the General Government Balance of over €13 bn (11.5% GDP) down from a surplus of around €350m in 2007. Net debt was virtually eliminated by 2007 but was equivalent to 11.1% of GDP in 2008 and is projected to stand at 23.8% of GDP in 2009.[31] Much of this has been due to the collapse of Ireland's excessive construction boom, stimulated by low Euro interest rates since Ireland joined the Euro in 1999. It can be argued that the prosperity generated by inward investment, and hence by low corporation taxes, underpinned the construction boom, but much of the excess could have been avoided by better regulation which would have curbed the reckless credit policies of the financial sector[32].

- Between 1987 and 2003 overall tax receipts increased four-fold, while corporation tax receipts increased 16-fold. This allowed public spending to grow by 220 per cent, compared with a comparable rise in the UK of 120 per cent over the same period.[33] Tax revenue fell in 2009 by €8bn (21%). Corporation tax receipts went down by €1.2bn (24%). Total Exchequer Deficit (current and capital account plus source and application of funds) increased from €7.8bn in 2008 to €22bn in 2009[34].

- The Irish economy has been hugely successful in creating jobs, with unemployment falling rapidly from 16.2 per cent in 1988 to 6.4 per cent in 2008, while the number of people in employment increased by two thirds in the last 20 years.[35] Unemployment fell further over the year to the quarter April-June 2009 by 8%[36], but increased raidly during 2009 to 12.5% in November 2009 (seasonally adjusted) as the financial and construction crisis unfolded..

- Ireland's history of mass emigration, apart from a brief reversal in the 1970s, ended. Net emigration averaged almost 17,000 a year between 1926 and 1991. Between 1991 and 1996, net migration was roughly in balance. Between 1996 and 2002, net immigration was 26,000 a year as the Republic became an increasingly attractive place to live and work.[37] There was a "reduced but still significant net immigration in 2007-2009, the fall largely resulting from decreased flows from new EU Member States." Emigration has been growing since 2004 and immigration has reduced sharply since 2007[38].

- Overall flows of foreign direct investment into Ireland increased from an annual average of around $140 million in the 1980s to $2,700 million a year in the second half of the 1990s. As a result, the total stock of foreign direct investment in Ireland in 2002 reached $157 billion, the highest in the world in per capita terms after Hong Kong.[39] The total value of Foreign Direct Investment subsequently decreased to €121bn in 2008 from €138bn in 2007[40].

[30] OECD Economic Outlook No. 85 Database, Annex Table 27: General government financial balances surplus or deficit as a per cent of nominal GDP
[31] OECD Economic Outlook No. 85 Database, Annex Table 33: General government net financial liabilities per cent of nominal GDP
[32] Fintan O'Toole (2009) Ship of Fools. Faber and Faber describes some of the shortcomings in regulation.
[33] Tax Reform Commission, 'Tax Matters: Reforming the Tax System', October 2006, p.46
[34] End November Exchequer Statement. November 2009. Department of Finance, Dublin.
[35] OECD Economic Outlook No. 81, May 2007, Annex Table 14: Standardised unemployment rates per cent of civilian labour force; Tansey, P., 'Productivity: Ireland's Economic Imperative', Microsoft, 2005, Table 6
[36] CSO, Dublin. Employment and Unemployment (ILO) '000s.
[37] Tax Reform Commission, 'Tax Matters: Reforming the Tax System', October 2006, p.46
[38] Martin Ruhs (2009)."Ireland: From Rapid Immigration to Recession". Centre on Migration, Policy and Society (COMPAS) Oxford University. Updated by Emma Quinn, Economic and Social Research Institute, Dublin. Available at: http://www.migrationinformation.org/USfocus/display.cfm?ID=740
[39] Forfas, 'Ahead of the Curve, Report of the Enterprise Strategy Group', July 2004, Table 11
[40] Foreign Direct Investment 2008. CSO, Dublin. 27 November 2009.

3.3.1 Causes of the Celtic Tiger Phenomenon

It is often argued that Ireland's economic miracle came about as a result of the generous EU funding that Ireland has received. But a closer look at the economic data suggests that this is not the case. During Ireland's more difficult years between 1979 – when the country joined the ERM – and 1994, when growth started to really take-off, the net payment to Ireland from the EC averaged 4.5 per cent of Ireland's GDP, while real GDP growth averaged 3.4 per cent. Between 1994 and 2006, the years of the 'Celtic Tiger', real GDP growth averaged 7.4 per cent annually, while net EU subsidies averaged 2.1 per cent of GDP.[41]

This is not to argue that European subsidies played no role at all, but we must look to other causes for Ireland's astonishing economic performance. In the absence of sensible fiscal policy in Ireland in the 1980s, high levels of EC payments were not sufficient to avert economic crisis. When, in 1987, the Irish government managed to get a grip on the crisis, it was due to tough domestic spending choices, not EC subsidies which stayed at a similar level.

The real reason for the Republic's astonishing success has been a very low rate of corporation tax for most manufacturing sectors since the late 1950s. This attracted a large in-flow of investment in plant and machinery, much of it by US multi-nationals in high value-added sectors. Low profits taxes are particularly valuable to high-profit companies and especially those in R&D-intensive sectors including pharmaceuticals and computers. This facilitates profit shifting in sectors where much of the profit is generated in US or other non-Irish R&D labs. Ireland's attractiveness to R&D intensive firms became particularly valuable during the high-tech boom of the late 1990s, and the Celtic Tiger expansion took-off. The advantages of low tax were supported by the normal factors in a western European economy, including reasonably well educated workforce and first-world infrastructure. In addition the English language and strongly supportive government agencies played a role. None of these factors can however account for the great success of the RoI in attracting FDI in comparison to Scotland, Wales or NI.

Like other countries, the Republic of Ireland is experiencing a severe economic downturn. This is due to a collapse in Irish banks which had a very large exposure to loans to developers following an unprecedented construction boom. The recession would be worse, and the prospects for recovery much more limited, if it did not have a competitive economy with a strong export-oriented base of FDI and a particularly strong tradable services sector. Ireland's current economic difficulties are the result of policy decisions other than corporation tax, and would arguably be even worse without a low rate of corporation tax. It is widely accepted that a major cause of the current financial crisis was low interest rates that played a critical part in leading markets to under-price risk.[42] Membership of the Euro meant Ireland had to share a common interest rate with other, more sluggish, economies. This could clearly have led to Ireland facing a lower interest rate than was appropriate, contributing to an under-pricing of risk and the build up of an asset bubble, notably in the value of houses and commercial property.

The experience of the Republic of Ireland is extremely pertinent to Northern Ireland. For years, Northern Ireland has been heavily subsidised by the rest of the UK. The fiscal deficit was equivalent to 24.6 per cent of GVA in 2006-07 –around £3,900 per head.[43] Relative to national/regional income, this is over five times higher than the level of subsidy the Republic of Ireland was receiving from the EU, and yet the Republic's economic take-off has so far proved elusive north of the border. It's time for a different approach.

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[41] EU payments to and contributions from Ireland data: European Commission, EU Budget 2006 Financial Report, Annex 4 http://ec.europa.eu/budget/library/publications/fin_reports/fin_report_06_en.pdf. GDP data: Eurostat and OECD.stat. NB: 1970-1978 in AU; 1979-1998 in ECU and since 1999 in EUR

[42] Goodhart, C. A. E. 'Explaining the financial crisis', *Prospect*, 31 January 2008

[43] Northern Ireland Net Fiscal Balance Report 2006-07 (experimental). Department of Finance and Personnel, September 2009

4 Reduced Corporation Tax for Northern Ireland

This report proposes that Northern Ireland follows the lead of the Republic of Ireland and other European countries and reduces its rate of corporation tax to 12.5 per cent, giving the region the joint-lowest rate in the EU. This could be achieved by:

- devolving corporation tax revenues to the Northern Ireland Executive in return for
- a one-off reduction of the same amount in the baseline for the Executive's Departmental Expenditure Limit (DEL).
- annual adjustments in the reduction in the DEL to reflect the fact that CT revenues handed over to NI by the Treasury would have been rising each year.

This would allow the Executive to reduce the corporation tax rate and adjust its own expenditure accordingly. The Treasury subvention would be initially reduced by the calculated amount of corporation tax revenue flowing from NI. The NI Executive would take over the revenues from corporation tax raised in NI. Initially, its income would be unchanged. Reduced funding from HM Treasury would be offset by an equal amount of income from local corporation tax. Assuming that the Executive then decided to reduce corporation tax rates in NI, it would find that its income from corporation tax revenues would be reduced. The amount of reduction is uncertain and depends on what reduction in the tax rate the Executive decided to impose.

A policy of reduced corporation tax is the only one we are aware of that would contribute to a successful economic development strategy in Northern Ireland over a reasonable timescale. A low corporation tax rate has proved to be an indispensable ingredient of faster growth in the Republic, and there is no reason that it would not make a major economic improvement north of the border. Although it is sometimes argued that the RoI enjoyed a 'first-mover' advantage in attracting FDI with low corporation taxes, the calculations in this report are based on FDI inflows since 2003 and hence do not reflect earlier periods.

4.1 The initial cost of reducing Northern Ireland's corporation tax rate

There are two potential costs to be considered in connection with a reduction in Northern Ireland's corporation tax rate to 12.5 per cent . The first, which is unavoidable, is a potential revenue loss in the region itself. The second, which can be mitigated by appropriate counter-measures,[44] is the further loss of revenue in the UK as a whole due to a number of firms relocating or shifting profits from the mainland to Northern Ireland to take advantage of its lower tax rate. Over time, though, the cumulative effect on the public finances should become positive, as increased investment leads to increased employment, which in turn leads to higher income tax and VAT payments, and lower benefit expenditure. Four estimates of these effects are worth citing:

- Firstly, the Treasury's review of tax policy in Northern Ireland, carried out by Sir David Varney, estimated that a 12.5 per cent rate of corporation tax in the region would result in a cost of £300 million in the first year, while the cumulative cost would be around £2.2 billion over ten years. This assumed a substantial loss of revenue in the UK due to firms relocating or shifting profits.[45] Sir David was writing at a time when the UK's main rate of corporation tax was 30 per cent. The CT rate is now 28 per cent, and the fall in profits during the current recession has reduced corporation tax

[44] HMRC already have powers under the Income and Corporation Taxes Acts (ICTA 1988 Schedule 28AA) to police transfer pricing *within* the UK. The Varney Review admitted: "It seems reasonable to assume that HMRC would be able to police profit shifting between mainland Britain and Northern Ireland to some extent" (p.57).
[45] Sir David Varney, 'Review of Tax Policy in Northern Ireland', HM Treasury, December 2007, p.58

revenues. In addition we argue below that revenues are unlikely to fall in proportion to CT rates.

- Secondly, economists at the Economic Research Institute of Northern Ireland (ERINI), the University of Nottingham, University College Dublin and Regional Forecasts Limited (now Oxford Economics Ltd) have estimated the first-year cost of a reduction in the UK's main rate of corporation tax of 30 per cent and small companies rate of 19 per cent to a flat 12.5 per cent rate to be £310 million.[46] The report found that increases in other taxes and reductions in benefit expenditure would mean that the cumulative effect on the public finances would become positive after seven years. The analysis also modelled the effect of reducing the projected volume of FDI flows and demonstrated that, while it takes longer to achieve the full economic benefits, the outcome is still positive. The ERINI report assumed that no profit shifting would occur, based on evidence from the Institute of Chartered Accountants in Ireland that profit shifting could be effectively policed.
- Thirdly, the TaxPayers' Alliance commissioned the Centre for Economics and Business Research to model the effect of a phased reduction in the UK's rates of corporation tax to 12.5 per cent. The simulations found that the effect on the public finances would be positive after eight years.[47] While this study did not focus on Northern Ireland specifically, its findings with respect to the public finances were broadly similar to those of the ERINI report cited above.
- Fourthly, an analysis cited in the Varney Report, based on OECD tax revenue statistics for 2005, showed that OECD countries with low *rates* of corporation tax tended to have high *levels* of corporate taxable income as a percentage of GDP[48]. On average a reduction in CT rates from 33% to 12% was associated with a ***doubling*** in corporate taxable income as a percentage of GDP. This in turn implies that a reduction in the CT rate from 33% to 12% would lead to a one third reduction in CT *revenue* rather than the two third implied by the change in the rates[49]. The Varney report did not appear to take account of this evidence in its assessment of the static cost of a cut CT rates in NI. This is a significant omission which leads to an exaggerated estimate of the cost of a reduction in CT rates.

An additional piece of evidence comes from the Republic of Ireland where CT rates for most non-manufacturing companies were reduced from 40% to 24% over the period 1994-2000 and then to 12.5% by 2003. CT rates for manufacturing companies (accounting for 24% of Irish GDP) were raised in 2003 from 10% to 12.5%. As can be seen in Figure 4.1 these changes in CT rates did not lead to any reduction in the nominal value of CT revenues. Nor were CT revenues significantly reduced as a percentage of GDP. We should note that Ireland's CT revenues as a percentage of GDP at around 3.5% is much the same as the UK where the CT rate for large firms over this period was 30%. This is line with the OECD evidence that reported taxable profits tend to be higher where CT rates are lower. Firms may be wiling to declare higher profits and some profits may be shifted into the low tax jurisdiction.

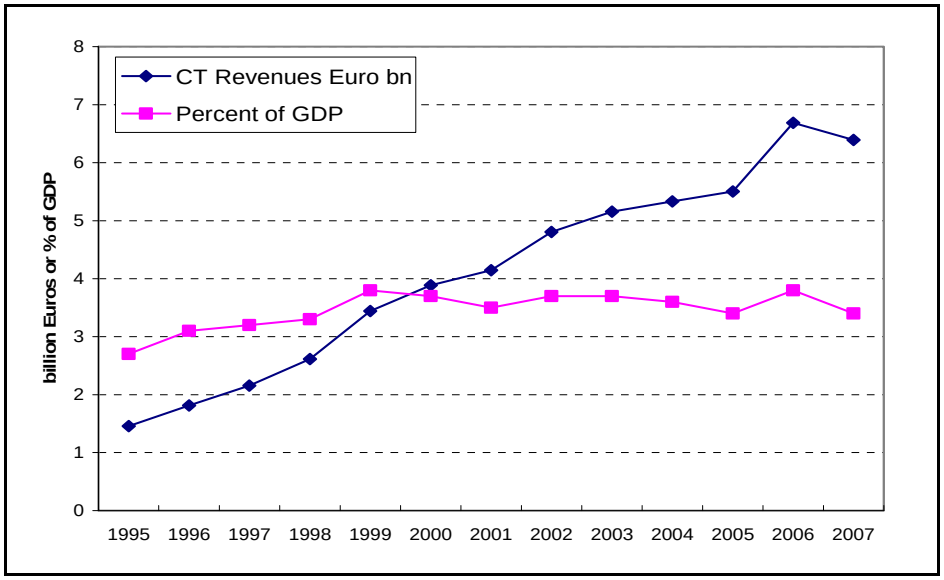
[46] Economic Research Institute of Northern Ireland, Greenway, D., and Görg, H., the University of Nottingham, Barry, F., University College Dublin, Regional Forecasts Limited, 'Assessing the case for a differential rate of corporation tax in Northern Ireland', November 2006, Table 5.18

[47] The Centre for Economics and Business Research, 'The dynamic impact of the 2007 Budget and a comparison with the impact of gradually introducing an Irish level of corporation tax', The TaxPayers' Alliance, April 2007, Table 8

[48] Varney op cit p37

[49] The relationship between corporate taxable income (as a % of GDP) and CT rates is:
*CT Income=25-0.45*CT rates*. This implies the following quadratic relationship between CT Revenues and CT rates: *CT Revenues = (25* CT Rates – 0.45*(CT Rates)**2)/100*. The maximum revenue of 3.5% of GDP occurs at a CT rate of 28%. A reduced rate of 12% would give revenues at 2.4% of GDP. In practice the Republic of Ireland's revenue in 2005 was much higher at 3.4% of GDP.

Figure 4.1 Corporation Tax Revenues Republic of Ireland



Source of Data: CSO Republic of Ireland

This range of evidence provides a guide to what loss of CT revenue would occur in NI if the existing rates were reduced to 12.5%. The Varney Review estimated that CT revenue in NI was in the range 1-1.5% of UK CT revenues[50]. Since the HMRC estimates that UK CT revenues will be £34 billion in 2009/10, this would give NI revenues in the range £340-520 millions for this year. Varney assumed that a reduction in CT rates from 30% for large firms (and 19% for small firms) would halve the revenues. For 2009/10 this would give a updated reduction, using the Varney methodology, of £170-260 million with a central estimate of £215 million.

Writing in December 2007 Varney estimates the NI corporation tax base as in the range £500-600 million. Taking a mid-range figure of £550 million and assuming a loss of 50% due to a reduction in CT rates to 12.5%, Varney estimated the static cost of reduced CT rates at £278 million per annum. We can note again that in making these calculations Varney ignored the OECD and Irish evidence that reductions in CT **rates** do not lead to pro-rata reductions in CT **revenues** or necessarily any reduction at all. Our view is that it would be reasonable to assume that a future reduction in rates from 28% for large firms (and 21% for small firms) to 12.5% would lead to an initial reduction in revenues in the range 33-45% of the tax base. A mid-range estimate of the current tax base is £430 millions, and hence the reduction in revenues would be £142 million for a reduction to 12.5%. This scale of lost revenues is around half that originally assumed by Varney. It would be a matter for the local administration to judge how and at what pace to reduce the corporation tax rate.

Looking ahead to the next chapter we can note at this point that this single difference in estimating static costs would change the conclusions of the Varney Review. Instead of a cumulative net loss of tax revenue in year 20 of £2,284 millions, *the same methodology in all other respects* would give a cumulative net gain of £446 million. With a lower static loss the breakeven point for cumulative gains/losses occurs between years 17 and 18. This compares to a breakeven point in year 11 calculated with the Oxford Economics model in the ERINI Report on Corporation tax[51].

[50] A recent DFP Report (NI Net Fiscal Balance Report 2006-7,Experimental) estimated a higher (2.4%) NI share of UK CT revenues. This was based on NI's share of UK corporate surpluses from the ABI excluding North Sea Oil. However a simple share of this nature fails to take account of the diverse capacity of firms to pay CT. A small number of firms, including banks, have traditionally generated a high percentage of CT revenues while many others pay little or no CT. Hence a simple proportioning of tax revenues across regions is unlikely to be accurate.
[51] ERINI(November 2006) Assessing the Case for a Differential Rate of Corporation Tax in Northern Ireland.

4.2 Making up for the lower revenue in the short-term

Once it has been decided to devolve responsibility to NI for corporation tax HM Treasury would need to initially assess how much revenue will be foregone in the first year. Using the 1-1.5% estimate from the Varney Report, we estimated above that the revenue raised in 2009/10 would be £430 million, plus or minus £80 million. In future years this figure is likely to be higher. An agreed figure would then be deducted from the annual budget settlement for NI (based on the Barnett Formula). The NI Executive would lose this amount but would gain the revenues from CT in NI. It would then be up to the Executive to decide whether to reduce CT rates and/or coverage and by how much.

Assuming that a reduction in CT rates leads to *some* initial reduction in CT revenue, the Executive would then need to make an equivalent reduction in spending. Making a one-off reduction in the baseline for the Executive's Departmental Expenditure Limit corresponding to whatever the amount of lost tax will be more difficult in circumstances where the resources available to the public sector grow more slowly than in the recent past. Some short to medium term pain may be necessary to realise the longer term gains. Not to do so would be to resign oneself to suboptimal economic performance and to forego the chance to take the economy in a different direction.

In any event, the difficulties in making a one-off reduction in the baseline should not be overstated. Interestingly, even if one takes a maximum figure of £200 million for lost tax, this is around two-thirds of average annual departmental under-spending on the NI budget. Over the last three years, the annual level of under-spending by the Northern Ireland departments has varied between £113 million and £155 million in resource budgets and between £97 and £227 million in capital budgets.[52] Overall, annual under-spending has thus ranged from £210 million to £382 million. If this level of departmental under-spending were to persist, a corporation tax cut would make no real difference to money reaching frontline services. However, the under-spent funds in 2008-09 were only £27.2m (for current expenditure it was £43.8 or 0.5%, compared to 2.1% in 2007-08)[53].

If any initial losses due to CT rate reductions could not be fully absorbed in annual under-spends, further savings may be possible. If the proportion of Incapacity Benefit and Jobseeker's Allowance claimants in Northern Ireland was the same as in the rest of the United Kingdom that would save over £75 million.[54] If the IB claimant rate was equal to the lowest regional rate in the UK the savings would be double this at close to £150 million. Savings on Incapacity Benefit would not normally flow to the NI Executive but arrangements to compensate NI could no doubt be negotiated with the Treasury.

[52] Press Release, Committee for Finance and Personnel, Northern Ireland Assembly, 7 January 2008 http://www.niassembly.gov.uk/finance/2007mandate/press/FP12_07.htm

[53] Public expenditure provisional outturn 2008-09 & June monitoring 2009-10 statement to the NI Assembly by Sammy Wilson mp MLA, Minister for Finance and Personnel. 7 July 2009

[54] Department for Social Development *'Incapacity Benefit and Severe Disablement Allowance Summary Statistics'*, May 2007, Table B.9a: Number of recipients of Incapacity Benefit at 31 May 2007, by rate of benefit and Government Office Region; Department for Social Development, *'Jobseeker's Allowance Summary Statistics'*, May 2007, Table 5.1: Number of claimants by GOR and benefit entitlement; Office for National Statistics *'Mid-2007 UK, England and Wales, Scotland and Northern Ireland Population Estimates'*, 21 August 2008, Table 8: Local authority, selected age groups; A Jobseeker's Allowance rate of £60.50 and an Incapacity Benefit rate of £63.75 are assumed because these rates provide the most cautious estimates of the potential savings from reducing the number of people in Northern Ireland on these benefits. Currently, lower rate of short term IB under pension age: £67.75 and Personal JSA for 25 and over, £64.30. More detailed investigation could discover whether Northern Ireland has particularly high or low numbers of claimants in the different bands for each benefit.

Table 4.1 Benefit claimant rates and potential savings in Northern Ireland

	Incapacity Benefit claimants, thousands, February 2009	Jobseeker's Allowance claimants, thousands, February 2009	Working age population, thousands, mid-2008	Incapacity benefit, claimant rate	Jobseeker's Allowance, claimant rate
North East	76.9	82.8	1,597.5	4.81%	5.18%
North West	183.9	183.7	4,238.4	4.34%	4.33%
Yorkshire and the Humber	109.3	143.3	3,245.7	3.37%	4.42%
East Midlands	87.6	104.7	2,742.7	3.19%	3.82%
West Midlands	111.5	166.4	3,293.8	3.38%	5.05%
East of England	86.8	112.7	3,486.0	2.49%	3.23%
London	81.1	189.9	5,094.8	1.59%	3.73%
South East	94.0	142.3	5,123.5	1.83%	2.78%
South West	102.5	91.5	3,115.2	3.29%	2.94%
Wales	99.0	76.8	1,800.9	5.49%	4.26%
Scotland	137.3	121.9	3,238.0	4.24%	3.76%
Northern Ireland	61.1	42.9	1,098.1	5.56%	3.91%
If Northern Ireland had UK average rates of IB and JSA	35.5	42.1			
Savings	£93.5 million	£2.9 million			

4.3 Impact of Lower Corporation Tax Rates on Public Finances

Without any change in CT arrangements the Treasury would normally expect rising CT receipts from NI over time due both to inflation and to growth in the economy. One argument is that the Treasury would be automatically compensated as lower CT led to an expanded NI economy and hence rising revenues from income tax, VAT etc. As we will see below these additional revenues could amount over time to a substantial sum.

The Treasury may however argue for a more certain return. They would thus argue that the deduction from the NI expenditure block should be increased each year to allow for the fact that their foregone CT revenues from NI would have been rising. One such adjustment would be to tie the expenditure reduction to CT revenues in the UK. In light of the Varney estimate for NI of 1-1.5% of UK revenues, a reasonable figure for the expenditure deduction might be 1.25% of GB corporation tax revenues[55]. An alternative, simple annual adjustment might be to up-rate the initial expenditure deduction in line with annual rises in nominal GDP in NI.

What then would be the costs and benefits to be shared between NBI and the UK Exchequer?

- The chief benefits to NI would come in the private sector, where tens of thousands of new jobs would be created, many at salaries above the current NI average. The NI economy would become more balanced between public and private sectors, and the public sector would be less dependent on tax transfers from GB. Vulnerability to national public spending cuts would thus decrease.

- A reduction in CT rates in NI could potentially reduce the Executive's CT revenues (although no such reduction occurred when the RoI reduced CT rates eight years ago). Any reduction in revenues could reduce spending on public services, by up 2%.

[55] Since a high proportion of UK CT revenues are contributed by London banks, an adjusted formula based on non-bank tax revenues might be more appropriate. The fairest solution might be to take a proportion of GB non-bank revenues,

In our view reductions could be absorbed by improved planning of annual under-spending.

- The main benefits to public finances would come through higher levels of income taxes, National Insurance, VAT, etc and through lower social security costs. These benefits could potentially be very large. Under current rules they would mostly flow directly to the Treasury and would reduce the need for a subvention to support public spending in NI. Tax revenues currently flowing to the NI Executive are local property taxes (rates) and water charges. These would increase as the NI private sector expanded. NI would not receive much benefit from falling unemployment and reductions in social security benefits so long as these are paid directly from the Treasury. The transfer of benefits policy to NI might hold advantages, but is too large a topic to be developed here.

In the next chapter we make more precise estimates of what impact lower CT rates might have on economic activity and tax revenues in NI. Before that we examine a number of implementation issues.

4.4 Implementation issues

A number of important issues will need to be taken into account in implementing a substantial reduction of the rate of corporation tax in Northern Ireland.

4.4.1 Extending fiscal devolution and reducing the UK's subsidy to Northern Ireland

The simplest way of dealing with the corporation tax adjustment is, as suggested above, to devolve the corporation tax revenues to the Northern Ireland Executive in return for a one-off reduction of the same amount in the baseline for the Northern Ireland Executive's Departmental Expenditure Limit. The net effect is initially neutral but as the local administration then lowers corporation tax rates it has to absorb the resulting revenue loss by adjusting its own expenditure. This is broadly analogous to the way the proceeds of the local regional rate are handled in the public finances. Such an approach leaves the whole Annually Managed Expenditure (on benefits, pensions etc directly financed by HMT) unaffected, and incentivises the local administration to take forward a tax cutting policy in the most efficient way possible.

Devolving corporation tax to Stormont will provide an important boost to devolution. The UK currently has the most centralised tax system of any major economy, with just 5 per cent of taxes collected locally.[56] A greater level of fiscal decentralisation is highly desirable for this reason alone.

4.4.2 EU legislation

The European Court of Justice judgement in the Azores case described three criteria under which regional differences in corporation tax rates would be compliant with EU law:

A. The region must have the political and administrative authority to introduce its own tax rate;

B. The national government must have no authority to influence such a decision;

C. The region must bear the full fiscal consequences of introducing its own tax rate and in particular must not be compensated by the national authorities for a loss of tax revenue.[57]

This suggests that such a policy in Northern Ireland is legally possible under EU law if, *firstly*, Stormont is granted power over corporation tax; *secondly*, if the NI Executive alone decides to

[56] Public Sector Finances Databank. HM Treasury. 20 November 2009
[57] Sir David Varney, 'Review of Tax Policy in Northern Ireland', HM Treasury, December 2007, pp.42-43

reduce the corporation tax rate to 12.5 per cent; and *thirdly*, the Treasury makes a corresponding reduction to the Northern Ireland Executive's Departmental Expenditure Limit, which means that Stormont faces the fiscal consequences of such a policy. Given the argument in favour of fiscal devolution above, granting Stormont autonomy over corporation tax would be highly beneficial.

4.4.3 Relocation of firms and profits

The shifting of profits and firms from the mainland to Northern Ireland, to take advantage of a lower corporation tax rate, could result in a net loss of revenue to the UK Exchequer, and is clearly an issue to be addressed. The legislative framework for controlling tax evasion through profit-shifting is examined in Chapter six. To run ahead the conclusion from this examination is that the Treasury has sufficient existing powers to control unreasonable company behaviour. The movement of genuine firms or branches to NI is more difficult to control. We do not envisage that it would be large since relatively few firms avail of the existing option of moving to the Republic of Ireland[58]. Neither are we aware of a large number of potential movers from GB to NI which only need a tax concession to stimulate such a move. To some extent moves from GB to NI could benefit the UK economy. Where the moves were from the Greater South East, under conditions of full employment, scarce resources of labour and premises are likely to be taken up by new investment, from abroad and elsewhere. The real problem is moves from one high unemployment region to another. If such a problem were to arise the best solution might be to extend reduced CT rates to these regions also. To some extent firms which consider moving to realise tax benefits, may switch from foreign destinations to NI. This would mean that firms relocating to NI from GB would not necessarily represent a loss to the UK.

The Varney Review assumed a net Exchequer loss of £75 million due to profit shifting, but did not appear to take into account the mitigating factors outlined in the previous paragraph. Even if this £75 million was the true figure it is hardly large enough to prevent such a potentially valuable experiment going ahead. Federal countries such as the US, Canada and Germany, have different rates of corporation tax at the state level in addition to a federal rate. These countries have managed to operate such a system for years, which suggests that it is sustainable.

But to a large extent, this sort of corporation tax competition is desirable, encouraging other parts of the UK to improve their competitiveness. Indeed, in a world of increasing globalisation and competition for the best place to do business, a low-corporation tax Northern Ireland would serve as a useful pilot for the UK as a whole.

4.4.4 Replicability

Northern Ireland exemplifies in an acute form the characteristics of those regions of the UK that lie beyond the Greater South East and particularly those on the periphery of the UK. Regional policy has failed to change substantially the relative performance of these regions, despite massive transfers of resources to provide public services and fund infrastructure as well as subsidising industry over decades. A new policy that gives those regions that want to compete the means to do so, is badly needed.

[58] A small but growing number of companies have moved from GB to the Republic Ireland for tax reasons. Some of these are financial business from London. The attraction of exceptionally light regulation might be as large an attraction as low tax for these firms. If so, a post-crisis reform of Irish financial regulation may diminish the attraction. Others are HQ's where the attraction is clearly one of profit shifting. We are aware of very few UK manufacturing concerns moving to Ireland.

This paper has focused on a policy of reducing corporation tax specifically in Northern Ireland. In principle, however, there is no reason why other areas that can fulfil the Azores criteria should not enjoy the ability to vary corporation tax, provided they are willing to trade off part of the support they get from the Treasury in return for the CT reduction. This could inject a new and powerful dynamic into the currently sterile field of regional policy. Northern Ireland could lead the rest of the UK in adopting a better approach.

5 Impact of Reduced Corporation Tax on the NI Economy

This chapter reports estimates of the impact on Tax revenues in NI of a reduction in corporation tax rates. The current rates are 28% for large firms and 21% for small firms. For illustrative purposes we report the impact of reducing these tax rates to 12.5% for all firms.

In estimating these impacts there is little previous experience within NI or the UK to guide us. NI has always had a grant-based system for stimulating additional investment. We assume that this system remains (albeit with lower grant ceilings than in the past), but cannot take the results of these incentives as a guide to the potential impact of reductions in corporation tax. Instead the model is based on experience in other countries that have reduced their rates of corporation tax.

The model used in this report was originally constructed by the Regional Forecasts division of Oxford Economics Ltd., but has been significantly revised for this report. The assumption made in the original model was that a move to a 12.5% CT rate, the same as in the Republic of Ireland, would eventually have the same impact on inward investment as in the RoI. This assumption was criticised by the Varney Review as not being based on the economics literature on tax impacts on inward investment. Although we continue to view the original assumption as reasonable, we have changed it in this report. Instead we base the projected level of new inward investment on the experience of other countries and in doing so review the existing academic literature.

The other main change is to revise the level of tax revenues lost from existing NI firms due to a reduction in CT rates. Previously we assumed that a reduction from 30% (or 18% for small firms) to 12.5% would lead to a halving of CT revenues. The Varney Review made a similar assumption. In this report we take into account international evidence that the CT tax base (i.e. reported profits) tend to be much higher in countries with low CT rates. We use this evidence to incorporate an assumption that a reduction in CT rates from 28%/21% to 12.5% would lead to a 30% reduction in revenues. This generates a smaller loss in revenue and makes the cost benefit balance more positive.

The full model is described in the annex to this report. In this chapter we provide a brief outline of its structure and assumptions. The model is an accounting system, based on current (Autumn 2009) Oxford Economics sectoral forecasts for the NI economy, and on a series of reasonable assumptions. It operates in an excel spreadsheet. Forecasts are provided annually to 2030. The broad approach involves:

- Projecting increases in total foreign direct investment (FDI) into NI at rates generated by a equation linking new FDI to CT rates and based on recent international experience (see below). The sectoral distribution of gains is based on the ROI experience, within manufacturing and business services. Sectors depending on local markets or raw materials (e.g. energy, mining, construction and distribution) are excluded as are HQ operations. FDI includes companies new to NI but not either expansions by existing foreign-owned companies or mergers and acquisitions.

- Projecting additional output and employment in existing locally and foreign-owned companies as a result of additional reinvestment resulting from lower corporation tax. This is done using an assumption that the GDP per employee in inward investment

projects will be twice as high as the average in existing NI firms in each sector. Firms are assumed to reinvest one third of the saved profits in their businesses and spend a further third in the wider NI economy.

- Calculating knock-on impacts in the wider economy
- Assessing the impact of all of these changes for tax revenues including corporation tax but also income tax, national insurance, benefits and incapacity benefits and VAT
- Calculating the impact on employment, unemployment, inactivity and migration
- Assessing the implications of labour market and demographic changes for public expenditure
- Calculating an overall Exchequer fiscal balance taking into account all of the estimated changes to tax revenue and to public expenditure (e.g. from changes in unemployment benefits).

The model is designed to provide a first approximation forecast of the impact of a change in Corporation tax based on model-based forecasts about the future as well as reasoned assumptions about the impact of tax changes. As can be seen from the above list it takes into account all of the main changes expected from a change in corporation tax. Even so, it does not claim to cover the full complexities of the tax system nor the full range of marginal impacts that are likely to flow from a change in the tax system (more complex models would need to be used for this purpose).

A benefit of using this model is that the results are consistent with the Northern Ireland Policy Simulation Model developed by Oxford Economics and funded by the Department of Enterprise, Trade and Investment, Department of Finance and Personnel, Department of Employment and Learning and the Office of the First Minister and Deputy First Minister. It has been utilised by central and local government in Northern Ireland in recent years for a range of research projects. The model also has the flexibility to adjust the assumptions made and to generate results for alternative scenarios.

5.1 Estimating the Impact of Reduced CT on Inward Investment

The success, or otherwise, of a planned reduction in corporation tax depends mainly on the impact the reduction has on attracting additional new inward investment (FDI). The aim is to attract additional international investment in plant, machinery, offices etc., if possible in high value-added activities. These will generate additional jobs, wages and CT revenues, with important knock-on effects in the wider economy, which themselves generate addition income taxes, Vat etc.

5.1.1 Estimate based on data on new FDI

A key element of any tax impact model is thus to estimate the scale of additional inward investment directly generated by the tax reduction. In this version of the model we have based this estimate on new evidence about the relationship between CT and FDI. Most academic work on this relationship is based on data on financial flows which includes acquisitions and mergers as well as real new investment. It also generally includes reinvestment by foreign-owned firms as well as investment by companies new to the country. In this chapter we have used new data to isolate real investment in companies new to the

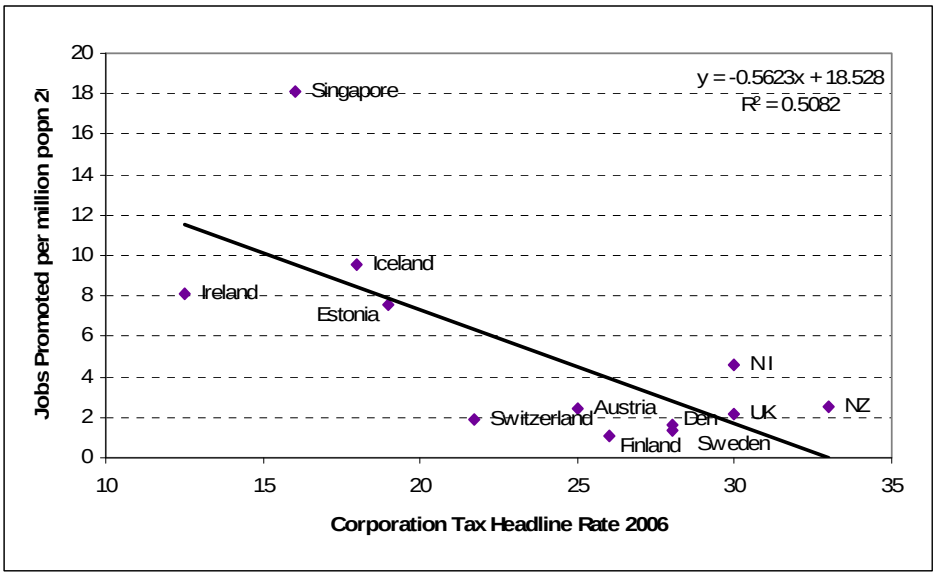
country. We have also focussed on export activities by excluding sectors which depend mainly on serving local markets[59].

We have obtained data on twelve small, and mainly peripheral, countries that might reasonably be considered to have similar characteristics to NI. These include the Republic of Ireland. The estimated relationship is between:

- The number of projected jobs per million population in companies new to the country in export sectors (excluding new HQ operations, since these are likely to be set up for tax shifting reasons). The data is annual for the years 2002-9[60].
- Statutory top rate corporation tax rates in 2006[61].

The observed relationship is shown in Figure 5.1. The average relationship is that 18,000 projected jobs per million population will be attracted over the seven year period *less* 0.56 jobs for every one percentage point in the statutory CT rate. Hence the predicted number of jobs for a country with a 12.5% CT rate would be 11,500 per million population. For a country like the UK with a 30% CT rate over this period it would be 1,700 jobs per million. These figures refer to a seven year period. On a *per annum* basis these figures would be 1,650 jobs per million in a 12.5% CT country and 240 jobs per million in a 30% CT case. It is clear that CT rates make a very substantial difference to the flow of new FDI in export sectors.

Figure 5.1 Jobs Projected in New FDI 2002-9 and Corporation Tax rates



Source of Data: fDi Intelligence Ltd

The relationship is statistically significant. The deviations of individual countries from the average relationship (which is shown by the best-fit line in Figure 5.1) is due in part to wage levels. Wages have a significant although smaller impact on new FDI flows[62]. For instance

[59] Our data comes from fDi Intelligence Ltd a subsidiary of the Financial Times Group. The data is based on announcements in the media and elsewhere of new investment projects. About half of the announcements include a statement of intended employment. Where this is lacking fDi use a procedure to estimate the employment. As a check we have compared the FTI estimate of jobs in NI with records from Invest NI. These estimates are substantially the same. In using this data we have assumed that 85% of these proposed jobs are actually created.

[60] The data covers the period from January 2002 to August 2009. The 2009m data has been pro-rated up to a 12 month period.

[61] Estonia had a zero CT rate for retained profits and a 24% rate for distributed profits. We have assumed that 75% of profits are distributed and that the average CT rate is 18%.

[62] Using the same data for 12 countries the best-fit equation including wages is:
FDI= 23.5-0.05*Wages-0.54*CT rate. All terms are statically significant at the 5% level. The wage variable is operative wages in manufacturing in common currency in 2006 (USA=100), based on US Bureau of Labour Statistics data.

40% of the extra advantage of the top performer (Singapore) above its predicted level of inward investment is due to low wages. The Republic of Ireland had a lower level of projected FDI jobs than predicted on the basis of its low, 12.5%, CT rate. This contradicts the generally held view that the IDA is a particularly effective development agency, suggesting instead that it attracts less FDI than expected given its low CT rate. In contrast, NI had a higher than projected number of projected jobs by around 1,000 a year. We ascribe this to NI's generous grant regime for FDI.

The relationship obtained using this data gives a reasonable estimate of the number of proposed jobs at any given level of corporation tax. For a CT rate of 28% the method predicts an annual inward investment flow of 800 jobs per annum[63]. A CT rate of 12.5% predicts an inflow of 2,900 jobs a year. **The difference between these two figures, i.e. 2,100 jobs per annum, is the impact of the change in CT[64].** This is the level of 'new to NI' FDI we can expect in NI as a result of reducing the CT rate to 12.5%. This will be augmented by additional jobs in existing firms, In addition, both the FDI jobs and those in existing firms will have knock-on effects in the wider economy. The results of all of these effects is calculated in the model and reported in section 5.2 below. Before moving to this we compare the calculated impact on FDI with what might be predicted on the basis of the existing academic literature.

5.1.2 Estimate of the Impact from the Research Literature

A great variety of academic studies exist that have examined the impact of corporation tax rates on inward investment flows. These have been most recently reviewed in an OECD Tax Policy Study in 2007[65]. This reviewed 36 different studies, and relied heavily on a meta-analysis of these studies by De Mooij and Ederveen (2005) which showed why the various studies arrived at differing impact estimates dependent on data used, methods, time period etc[66]. The studies generally attempt to estimate elasticities relating the percentage change in inward investment flows to percentage changes in CT rates. Most useful for this report are the related *semi-elasticities* which relate the percentage change in inward investment flows to *percentage point* changes in CT rates.

Table 5.1 The Relationship between Changes in CT rates and Changes in inward investment

	Semi elasticity		
	Mean	**Median**	**Std. dev.**
Time series	-2.61	-2.75	6.03
Cross section	-7.16	-4.24	6.92
Panel	-2.73	-2.41	2.69
Discrete choice	-3.43	-2.80	6.42
All	**-3.72**	**-2.91**	**5.92**

Source: De Mooij and Ederveen (2005). Cited in OECD (2007) p60.

Four broadly different approaches have been used in the literature, and the average semi-elasticities derived from these studies are summarised in the table above. The time-series studies were largely conducted with financial data on inward flows into US states in the 1980's and are of limited relevance for the present report. Most relevant are the country cross-section studies and the panel (i.e. joint cross section and time series studies). These are generally based on financial data, usually including mergers and acquisitions as well as physical investment. The discrete choice studies are based on numbers of projects rather than the size of investment. Again they include mergers and acquisitions as well as physical

[63] This is obtained using the equation in the previous footnote (where the wage level is 92.8)
[64] In the model projections this impact will rise over time due to a trend increase in the level of global FDI coming into the EU. The increase is mainly in the service sectors. FDI in manufacturing is expected to decline into the EU as investment increasingly moves to lower cost countries.
[65] OECD (2007) Tax Effects of Foreign Direct Investment. Recent Evidence and Policy Analysis. Tax Policy Studies no.17 Paris
[66] Mooij R. A. and Ederveen S. (2005) taxation and Foreign Direct Investment. A Synthesis of Empirical Research. International Tax and Public Finance 10, 673-693.

investments. Some studies define corporation tax in terms of statutory rates, others use effective average tax rates or effective marginal rates.

Many of these studies are of limited relevance to our present concerns due to their reliance on financial flows data to measure investment. This generally includes mergers and acquisitions. This type of inward investment is not usually responsive to CT rates since any advantage to profits from lower CT rates will normally be capitalised in the cost of assets. Indeed, there is evidence that merger and acquisition investment is higher when CT rates are higher, where-as physical investment is higher where rates are lower. It can be appreciated that data which combines these two types of FDI will produce hybrid elasticities, and these will generally be too low for physical investment projects alone.

The Mooij and Ederveen meta-analysis attempts to separate these various effects. It shows that cross-country studies generate high semi-elasticities especially in cases where data is restricted to physical investment. The meta-analysis suggests that cross-mean country semi-elasticities are between 7 and 11. This means that a one percentage point decrease in CT rates will be associated with a 7-11% rise in inward investment flows. A 15.5% percentage point reduction in CT rates from 28% to 12.5% will thus be associated with an increase in investment between 110% and 170%. If this was applied pro-rata to jobs it would imply an increase in NI's inward investment jobs promoted from 1200 per annum to 2500-3200 i.e. an increase of 1300-2100 jobs. This is in our view still too low an estimate since the semi-elasticity data includes physical investment in existing as well as new companies in any country. Even so, this range compares reasonably well with the estimate of 2,100 jobs per annum derived in the previous section and used in the revised tax model.

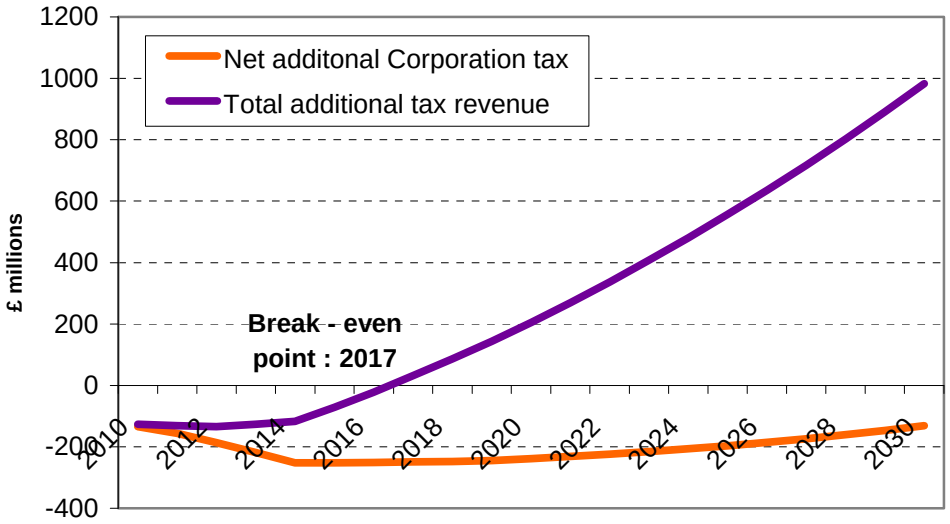
5.2 Impact of Reducing Corporation Tax Rates to 12.5%

To illustrate the likely economic impact of reduced CT rates on tax revenues in NI, we use the revised Oxford Economics tax model to generate results for a reduction in CT rate to 12.5%. For the purposes of illustration the change in CT is assumed to occur in 2010. The initial impact on inward investment in the first year is assumed to be only 25% of the full impact, rising to 50% in the second year, 75% in the third year and 100% in the fourth year. In addition to the inward investment, existing firms also invest and spend more as a result of lower tax. Expansion in both new and local firms then generates knock-on effects in the wider economy. It is assumed that vocational education and other relevant policies in NI are adjusted to ensure that the new jobs can be effectively filled.

The estimated impact on CT and other tax revenues is shown in Figure 5.2. The main points are as follows:

- Corporation tax revenues are initially reduced but start to increase as new investment takes place. It would take more than the 20 years considered here for the level of CT revenues to return to its original level.
- As a result tax revenues accruing to the NI Executive remain £100-250 million per annum lower than at the original CT level. (Note that experience in the RoI suggests that no reduction may occur, but we have taken a more pessimistic view here).
- *Total* tax revenues build up much more rapidly, with a break even point after only six years. Much of this revenue, in the form of income tax and VAT revenues, would accrue directly to the HM Treasury rather than to the NI Executive. The Treasury would thus be a net gainer of revenue after only six years. After this point the Treasury subvention to NI would begin to reduce.
- These calculations omit any consideration of profit-shifting from GB. Varney estimated net international and domestic profit-shifting at £75 million. We argue below that this is overly pessimistic, but even this level of profit-sharing would delay the break-even point by only one year.

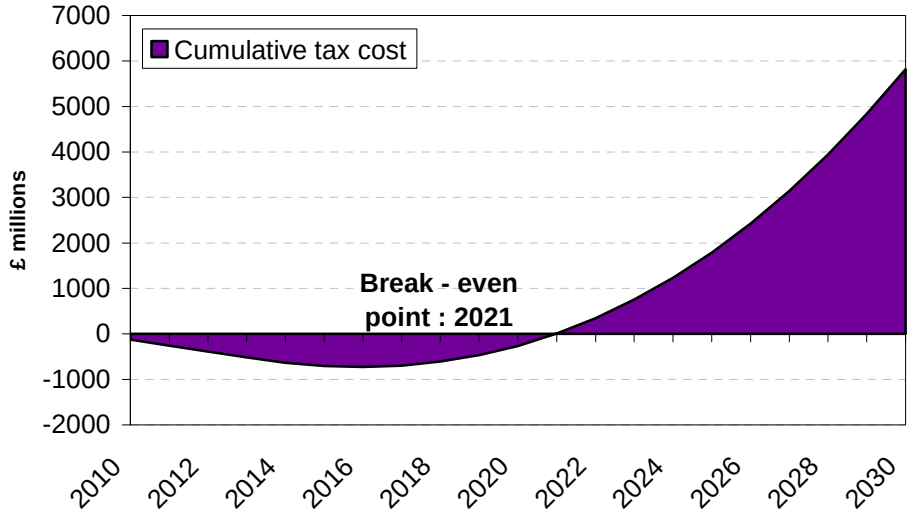
Figure 5.2 Impact on Tax Revenues of a Reduction in CT to 12.5%



Source: calculated using the OE Tax Model

The cumulative loss of overall tax revenue would remain negative for eleven years but thereafter would become increasingly positive (Figure 5.3). The implication is clear. A reduction in CT tax to a level close to that in the Republic of Ireland would quite quickly raise overall tax revenues in NI.

Figure 5.3 Cumulative Change in Overall Tax Revenues following a Reduction in CT to 12.5%



Source: calculated using the OE Tax Model

5.2.1 Displacement of Firms from GB

Part of the gain in FDI in NI may consist of firms moving from GB. In this case a gain for NI could potentially be a loss for GB. The calculated gain in tax revenues calculated in the previous section would thus be partly offset by losses in GB. The Varney Review assumed that 8% - 17% of inward investment into NI would be from GB. In part the Varney assumptions were based on the view that 'much of the FDI into the Republic of Ireland is actually from the UK'. This has however not been the case for manufacturing or for business services, which are the main sectors for new FDI (and in which most FDI has originated from the USA). The attraction of low corporation tax is to firms in very high value-added sectors. Within manufacturing for instance this tends to be in pharmaceuticals, computers and other electronic and instrument engineering, the majority of which come from the USA.[67] The Varney Review may have been referring to inward investment in construction, distribution and other sectors dependent on local demand in the Republic of Ireland. Inward investment in these sectors is excluded from consideration in the calculations below for FDI in NI.

Even if displacement from GB does occur this is not necessarily a loss to the UK Exchequer. Some of the moving firms may be from regions with full employment where the released resources are likely to be reused by new activities. Other firms moving to NI may have otherwise have moved to other low tax or low cost countries including the Republic of Ireland. If the genuine displacement were small, say in the range 5-10% of new FDI into NI, the lost tax would be small, at around £5-10 million per annum after 10 years.

The displacement of firms from regions in GB with significant problems of unemployment would pose a political problem, even if such firms might otherwise have moved out of the UK, and would inevitably lead to demands for similarly low corporation tax in these regions. After consideration of the impact of reducing corporation tax in GB, the correct policy response might be to accede to such demands.

5.2.2 Profit Shifting

Profit-shifting is a more serious concern. Firms in GB with branches or other bases in NI, could shift their GB profits into the lower tax regime of NI leading to significant loss of Exchequer revenue. This would be partly, or wholly, offset by foreign-owned firms shifting profits into NI and hence into the UK. The Varney Review made the following estimates:

- Gains in CT revenue due to profit shifting into NI by foreign-based firms £42m
- Losses in CT revenue due to profit shifting into NI by GB-based firms £117m
- Net Exchequer loss due to profit shifting £75m

The gain in profit shifting by foreign-based firms looks too low to us. We can think of individual foreign-owned firms in NI in high value-added sectors that have managed to arrange their affairs to avoid ever paying any corporation tax in the UK. If such firms were to begin paying CT at the new low rate, and in addition were to shift some international profits into the UK, a single firm alone might plausibly contribute 20-25% of the £42 million assumed by the Varney Review.

We discuss ways of minimising profit-shifting from GB in chapter 6. Given the small number of large enterprises in NI, there is some scope for effective policing of tax evasion through profit-shifting. Even if the net Exchequer loss were say £50 million, this would hardly be large enough to preclude a move to lower CT tax in NI given the large gains estimated above. If it were judged that there was a minimum unavoidable loss of CT revenues due to tax-shifting from GB this could be considered in negotiations over the size of the offsetting cut in the NI expenditure block.

[67] In recent years over two-thirds of new FDI has been in business services rather than manufacturing.

5.2.3 Job Creation

Finally, table 5.2 below summarises the estimated number of jobs created in the Oxford Model. This amounts to a total of just over a thousand jobs in the first year building up to over 6,000 jobs a year by the 20th year.

Table 5.2 Annual Job Creation Through New FDI, Existing Firms and in the Wider Economy Following a reduction in CT to 12.5%

Annual Job Creation	2010	2013	2018	2030
New FDI	450	2100	2250	3638
Induced jobs in existing firms	102	723	986	1339
knock-on effects	106	529	666	1954
Total Jobs	**658**	**3352**	**3902**	**6931**

Source: calculated using the OE Tax Model

Annex to Chapter 5 Comparison with Varney Estimates

The table below compares the tax estimates generated by the Oxford model for this report with those published in the Varney Review. In the 8th year (denoted here as 2018) this report has overall tax revenues at a positive £250 million. Varney has a negative £137 million. The difference is partly due to the inclusion of estimates for profit-shifting and displacement of firms from GB in the Varney estimates but not in ours. The estimates for CT losses from existing NI firms are higher in the Varney Review for reasons discussed earlier in this chapter. However, by far the largest difference is in the estimates for revenues from 'other', i.e. non-CT, taxes. Varney assumed that these would be three times the level of CT taxes raised from FDI and domestic investment. Varney also appeared to believe that this was also the case in the Oxford model, although this is clearly not the case. These differences are magnified by the 20th year (2030), Since corporation tax revenues are currently only around 8% of total tax revenues it is not at all obvious why the Varney Review should assume that non-CT revenues should be so small that CT revenues contribute a third of all revenues.

Table A5.1 Comparison of Annual Tax Estimates - This Report and Varney Review

Varney	2010	2013	2018	2030
Additional tax from new FDI	4	18	49	100
CT from domestic investment	1	6	15	30
Reduced tax from existing firms	-278	-279	-279	-279
Other taxes	14	62	162	334
TOTAL	**-259**	**-193**	**-53**	**185**
Displacement and profit Shifting	-16	-78	-84	-90
TOTAL incl Displacement and profit Shifting	**-275**	**-271**	**-137**	**96**

Oxford Economics+A239 Model	2010	2013	2018	2030
Additional tax from new FDI	1	16	58	229
CT from domestic investment	0	3	14	59
Reduced tax from existing firms	-136	-240	-324	-433
Other taxes	8	89	324	1090
TOTAL	**-127**	**-131**	**72**	**945**
Displacement and profit Shifting	0	0	0	0
TOTAL incl Displacement and profit Shifting	**-127**	**-131**	**72**	**945**

Difference RFL less Varney	2010	2013	2018	2030
Additional tax from new FDI	-3	-2	9	129
CT from domestic investment	-1	-3	-1	29
Reduced tax from existing firms	142	39	-45	-154
Other taxes	-6	27	162	756
TOTAL	**132**	**62**	**125**	**760**
Displacement and profit Shifting	16	78	84	90
TOTAL incl Displacement and profit Shifting	**148**	**140**	**209**	**849**

6 Implementation Issues

6.1 Introduction

As with all fiscal legislation, careful consideration must be applied to both the drafting and implementation of a system which will introduce a reduced rate of corporation tax that will be specific to Northern Ireland [the "NI CT rate"]. Whilst the NI CT rate would have to fall within the existing UK tax legislation, the clear policy objective should be to minimise the amount of new or additional legislation which would be required in order to facilitate the introduction of such a rate.

It is acknowledged that there are certain issues which must be addressed and key concerns which must be overcome. These include:-

- Ensuring that new and additional tax legislation is compliant with EU legislation
- Ensuring that any new or additional legislation interacts appropriately with existing UK tax legislation
- That the scope of the NI CT rate is appropriately targeted to encourage the growth of genuine economic trading activity in Northern Ireland
- That the legislation aims to prevent artificial profit shifting within the United Kingdom
- That businesses are not incentivised to incorporate solely as a result of the NI CT rate
- Additional burdens to companies as a result of the introduction of a NI CT rate are kept to a minimum

Whilst each of these issues will require careful consideration, it is clear that none of the issues are insurmountable and each one can be addressed through the appropriate legislative and administrative channels.

6.2 Summary of proposed NI CT rate

The clear objective of the NI CT rate is to encourage an increase in genuine trading profits arising within Northern Ireland. This increase in genuine trading profits would come from the growth of existing indigenous Northern Ireland companies, existing UK companies who were prepared to migrate genuine trading activities to Northern Ireland and, most importantly, foreign corporations relocating their genuine trading activities to Northern Ireland.

In essence, the introduction of a NI CT rate is a simple design. The existing main rate of corporation tax in the UK is 28%. This rate can be reduced to 21% if the profits of an economic group are less than £300,000 per annum. The total tax rate will fall between these two extremes if the profits of the economic group fall between £300,000 and £1.5m. The proposal would be for Northern Ireland to have one rate of corporation tax set at a level which is significantly below both the full and the lower rates of corporate tax. The rate should be no greater than the current ROI corporation tax rate of 12.5% so that NI can compete on a level playing field

It is proposed that the rate of corporate tax for Northern Ireland would apply solely to genuine trading activity carried out in Northern Ireland and would not apply to non-trading activity, capital gains and trading profits that did not arise in Northern Ireland.

6.3 Addressing the issues of concern

6.3.1 Ensuring that new and additional tax legislation is compliant with EU legislation

There is a clear analysis of the current EU position, in chapter 7, relating to the introduction of regional rates of corporation tax within an EU member country. Based on EU legislation, it is permissible for a member state to introduce a differential rate of corporation tax to a region as long as certain criteria are fulfilled. In summary these are:

- The region must have the political and administrative authority to introduce its own tax regime.
- The national Government must have no authority to influence such a decision.
- The region must bear the full fiscal consequences of introducing its own tax regime and in particular must not be compensated by the national authority for loss of tax revenue.

As outlined in chapter 7, it should be possible for each of the above requirements to be fulfilled. Indeed, in his Review of Tax Policy in Northern Ireland, Sir David Varney confirmed that:

> "A move to a differential corporation tax rate for Northern Ireland would be possible in principle". [68]

6.3.2 Ensuring that any new or additional legislation interacts appropriately with existing UK tax legislation

It would be imperative that the introduction of a NI CT rate should fit within existing UK tax legislation. Whilst there will undoubtedly be a requirement for new legislation, a significant amount of existing legislation should already facilitate the introduction of such new legislation. Whilst it would be a matter for HM Treasury in conjunction with HM Revenue & Customs to bring forth any proposed legislation, it should be possible for such legislative changes to be kept to a minimum.

The implementation of such legislation would require careful choreography between Westminster and Stormont, it is envisaged that the following steps would occur:

- Westminster would introduce appropriate tax varying powers to be granted to the Northern Ireland Assembly to enable the Assembly to set a corporation tax rate for trading profits generated in Northern Ireland within a range of rates between (say) 10% and 28%.
- The Northern Ireland Assembly would then introduce legislation to vary the rate of corporation tax on trading profits generated within Northern Ireland. Such legislation to fully quantify the cost of introducing the reduced rate and authorising the equivalent reduction in the Northern Ireland block grant.
- HM Treasury to take responsibility for the administration of the revised corporation tax rate within Northern Ireland.

[68] Section 3.20 of the Review of Tax Policy in Northern Ireland by Sir David Varney December 2007

The recording of trading profits subject to the NI CT rate would fall within the existing corporation tax self-assessment regime. However, HM Revenue & Customs would monitor and police the operation of the rate to ensure that it applied solely to companies which generated genuine trading profits within Northern Ireland. If avoidance of UK tax was occurring as a result of the misuse of the NICT rate within Northern Ireland, additional anti-avoidance legislation could be introduced and there are sufficient provisions within the existing UK tax legislation to counter any of the above.

6.3.3 The scope of the NI CT rate is appropriately targeted to encourage the growth of genuine economic trading activity in Northern Ireland

It is anticipated that the NI CT rate would apply solely to trading profits generated from companies which conducted their operations within Northern Ireland and would not be available for income and profits earned from non-trading activities such as capital gains and investment income. The application of this legislation will require both the identification of trading profits and more specifically the identification of trading profits arising within Northern Ireland. Dealing with each of these:

a. Identification of trading profits

   At present, UK corporations are required to separately identify their trading profits from their other sources of income, profits and gains. The trading profits are taxed under the provisions of Schedule D Case 1.[69] As a result of this, there should be no additional administrative requirement for companies wishing to claim the NI CT rate in identifying their trading profits.

b. Identification of trading profits arising within Northern Ireland

   In its simplest form, a Northern Ireland registered company with no activities outside Northern Ireland, should easily be able to identify its Northern Ireland trading profits. However, if a Northern Ireland company generates trading activity within Northern Ireland and outside Northern Ireland, or alternatively a non Northern Ireland based company generates activities both within Northern Ireland and outside Northern Ireland, then there will be a requirement to separately identify the profits arising within Northern Ireland.

   The separation of trading activities and the resultant quantification of profits derived there from is something that most companies are capable of doing as part of their ongoing management reporting activities. Most companies should therefore be more than capable of identifying the level of activity and profits between their Northern Ireland activities and their non Northern Ireland activities. Having made such an allocation, it would then be a straight forward matter of allocating these profits to the appropriate corporate tax rate in order to quantify the overall corporation tax liability of that company. In addition, allocating divisional or branch profits is a well established principle within the existing UK tax framework.

   It is recognised that a NI CT rate could result in an unfair allocation of profits between Northern Ireland and non Northern Ireland activities. Such unfair allocation can be addressed by existing anti-avoidance transfer pricing legislation.[70]

An alternative solution would be to require all corporates which intend to start trading within Northern Ireland and claim the NICT rate must do so as a Northern Ireland registered company. This would help to prevent non Northern Ireland companies claiming that they were conducting a trade in Northern Ireland through a branch and inappropriately allocating profits to that branch.

[69] CTA 2009 ss35
[70] Schedule 28AA ICTA 1988 – this is addressed later in this chapter

6.3.4 The legislation aims to prevent artificial profit shifting within the United Kingdom

As noted above, a NI CT rate (set at a level which is no greater than the current ROI corporation tax rate) would create an incentive for companies to allocate profits to a Northern Ireland subsidiary company or a Northern Ireland branch. Such profit shifting could take place either as a result of migration of trading activity from other parts of the United Kingdom to Northern Ireland or by the artificial allocation of a groups profit between UK companies based in Northern Ireland and UK companies based in the rest of the United Kingdom.

Dealing with each of these:

a. Migration

If the NI CT rate was to be set at a level which is no greater than the current ROI corporation tax rate, there is a likelihood that companies based in GB may consider transfering some or all of their activities to Northern Ireland. If there is to be genuine transfer of economic activity to Northern Ireland, then this should be welcomed as a means of facilitating the regionalisation of the United Kingdom and preventing the migration of such trading activities to places outside the United Kingdom such as the Republic of Ireland, Switzerland or Eastern Europe. The profits generated by such trading activities will still be subject to tax in the United Kingdom and the employees of such companies will generate income tax and National Insurance for the UK Exchequer. It is worth noting however that a transfer of business from Great Britain to Northern Ireland is unlikely to be a straightforward decision due to the logistical difficulties imposed by the Irish Sea. This difficulty has been borne out by the lack of relocation of a large number of GB businesses to ROI.

However, artificial migration and brass plating are also possible. There should be a clear and rigorous policing of such artificial migration of trading activities. As noted above, the requirement for all companies wishing to start operations in Northern Ireland to form a new Northern Ireland registered company should help prevent the artificial creation of Northern Ireland branches. However, even if this was to be introduced, there still remains the opportunity for brass plating to occur. This concern can be addressed by ensuring the profits earned in NI are commensurate with the substance and activities carried on and one way to assist with the policing of this would be to introduce a requirement for Northern Ireland companies and branches wishing to claim the NI CT rate to make an annual submission of the names and addresses of all employees who live and operate in Northern Ireland. Such additional information would provide HM Revenue & Customs with clear information to determine whether the company had sufficient people with which to carry out its Northern Ireland based operations and thus generate a genuine level of Northern Ireland based profits.

b. Artificial allocation of profits to Northern Ireland

It is possible that companies will attempt to inappropriately allocate trading profits between Northern Ireland based companies and companies based in Great Britain. As the NI CT rate is aimed at trading profits that are genuinely generated in Northern Ireland, such artificial transfer pricing manipulation should be prevented. However, it is possible that non-UK companies may allocate as much of their profits which are commercially viable to their branch in Northern Ireland and that the overall net result from such an "allocations" may result in a net gain to the UK Exchequer.
At present, there is a requirement in the United Kingdom for all transfer pricing activities to take place at an arms' length.[71] . This legislation is compliant with OECD principles and has been in place for over five years. Whilst the transfer pricing legislation will in all

[71] Schedule 28AA ICTA 1988.

cases apply to large companies and groups[72], there are certain exemptions for companies that are SMEs. It would therefore be possible for SMEs to artificially transfer profits from GB to Northern Ireland without falling foul of the transfer pricing legislation.

As noted above, an appropriate way of dealing with this concern would be to:

i. Require all new corporates starting to operate in Northern Ireland and wishing to claim the NI CT rate to do so through a Northern Ireland registered company.

ii. Ensure that the profits in NI are commensurate with the substance and activities carried on with the requirement for all Northern Ireland based companies and branches to submit a list of the names and addresses of all Northern Ireland based employees.

Whilst this may not provide a cast iron means of preventing the artificial manipulation of profits between Northern Ireland and GB, it will provide a much easier means to HMRC of policing the artificial manipulation of profits. It should also be noted however that HMRC have powers to invoke transfer pricing adjustments on medium sized companies where avoidance is occurring, and this would only leave small companies (i.e. turnover & assets less than €10m and less than 50 employees) outside the transfer pricing rules.

6.3.5 Business is not incentivised to incorporate solely as a result of the NI CT rate

As noted in the Varney Report, there is a genuine concern that the introduction of a low rate of corporate tax in Northern Ireland would encourage the incorporation of currently unincorporated businesses. Whilst there is some merit in this concern, a NI CT rate in itself would not be the sole reason for the incorporation of unincorporated businesses. The introduction of higher rates of income tax within the United Kingdom for the foreseeable future will in itself encourage a significant number of businesses to incorporate. It is felt that these higher rates of income tax will in themselves encourage more people to incorporate than the introduction of a Northern Ireland corporate tax rate.

6.3.6 Additional burdens to companies as a result of the introduction of a NI CT rate are kept to a minimum

As noted above, the introduction of a NI CT rate would provide an invaluable incentive for companies generating genuine trading profits within Northern Ireland. There would undoubtedly be an additional administrative burden in the identification and recording of such profits over and above the existing administrative and recording requirements. However, such additional burden is unlikely to cause significant hardship to companies which will benefit from the lower rate of corporation tax.

As noted above, the introduction of a NI CT tax rate should not require a significant amount of additional legislation and should not be applicable for the vast majority of companies which currently operate in Great Britain. Whilst there would undoubtedly be a need for careful policing of the operation of the NI CT rate, it is felt that this can be kept to a manageable level by the introduction of certain additional requirements. Such requirement could include new corporates which start to operate in Northern Ireland and which wish to claim the NI CT rate having do so through a Northern Ireland registered company and also by requiring such companies to notify HMRC of the names and addresses of employees that work within Northern Ireland.

[72] A large company or group is one with more than 250 employees and either a turnover in excess of €50m or a balance sheet totalling more than €43m

We do not believe that there would be a requirement to amend the existing transfer pricing legislation to any great extent, nor do we believe that there would be a requirement for all UK based SMEs to be affected by the introduction of a NI CT rate. We believe that the policing of the appropriate use of the rate can be achieved by introducing measures which ensure that profits earned in NI are commensurate with the substance and activity carried on in NI and the use of more focused administrative reporting requirements and thus GB companies which do not operate in Northern Ireland should not be impacted by the introduction of a NI CT rate.

7 Legal Issues- the Azores Judgement

7.1 Introduction

The issue of regional tax differentials is part of a wider European debate concerning tax competition. Tax competition refers to competition between jurisdictions to attract mobile capital investment by adjusting either the headline rate of taxation or the rules surrounding the tax base or both rates and rules. Within the European Union (EU) there has been an ongoing drive to abolish harmful tax competition between member states because it is seen as having adverse effects on the operation of the internal market. The EU has acted against harmful tax competition through tax legislation and jurisprudence. In addition to the significant number of tax competition decisions taken by the European Court of Justice (ECJ), the European Council adopted a "Code of Conduct on Harmful Tax Competition" in December 1997 (98/C 2/01), the Commission has sought to strengthen and clarify the rules surrounding state aid and the role of tax competition therein. Most recently the Commission has been working towards a framework for a Common Consolidated Corporate Tax Base (CCCTB) which is designed to bring about an end to harmful business tax competition.

7.2 Tax Competition

Opinion is somewhat divided on the desirability of tax competition. Opponents often argue that, at best, tax competition encourages 'beggar thy neighbour' behaviour; at worst it represents a 'race to the bottom' that results in a lower tax yield, inadequate public service provision and lower economic welfare. Some even argue that the tax competition undermines the European Social Model. The most vociferous opponents of tax competition within the EU have been the German and French governments.

Advocates of the competition argue that it leads to lower taxation and smaller government. In Ireland's case, the introduction of a simplified 12.5% rate of corporation tax from 1998 was followed by a trebling in revenues.[73] The Irish success with a lower rate and a more simplified corporate tax system has been studied and replicated by several emerging and Eastern European economies in recent years.

The dimension of tax competition at the heart of this paper is the extent to which tax competition can become an effective instrument of regional policy. Could a differential corporation tax regime in Northern Ireland contribute to real economic convergence? The analysis set out in Section 5 strongly supports this.

7.3 State Aid and Tax Competition

Tax competition at the regional level is subject to the same eligibility criteria as at the member state level. Article 87(1) of the 1997 consolidated version of the EC Treaty sets out the general prohibition of state aid as follows: "Save as otherwise provided in this Treaty, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, insofar as it affects trade between Member States, be incompatible with the common market." By way of further clarification of the general prohibition, in 1998 the Commission issued State Aid Guidelines, defining aid as any measure which:

1. confers on recipients an advantage which relieves them of charges normally borne from their budgets e.g. a corporate tax reduction.

[73] 1998 corporate tax was €16.5 billion; by 2007 this had reached €47.25 billion. Source: Revenue Commissioners.

2. is granted as an advantage by the State or from State resources e.g. grant aid or a loss of tax revenue;
3. affects competition and trade between Member States. This applies to small firms, firms supplying domestic markets only, firms supplying third countries exclusively and it covers all aid no matter how small;
4. favours 'certain undertaking or 'the production of certain goods'. The guidelines distinguish between general tax measures which are available to all businesses on an equal basis in a Member State and measures such as a lower corporate tax rate for a particular sector such as manufacturing or exporters.

7.4 Regional Tax Competition: the Azores Case

In February 1998 the Azores regional legislative assembly approved for the region "the exercise of tax competencies at regional level and the exercise of the power of adaption of state taxes" (Decree 2/99/A). This decree permits reduced rates of both income and corporation tax for all economic agents as follows:

- reduction of 15% for 1999 and 20% from 1 January, 2000
- reduction of 30% for corporate tax

These measures reduced corporation tax by 30% from 34% to 23.8% from 1999 until 2004 and from 25% to 17.5% from 2004 onwards. The justification for these tax reductions was to accelerate the economic development of the Azores. The Portuguese authorities were late in notifying this regional tax differential to the Commission (January 2000) and it was considered as non-notified aid. The Commission qualified the measure as state aid under Article 87(1), stating that it (the tax reduction) constituted an advantage for firms situated in the Azores that other firms wishing to carry out similar operations in other parts of Portugal could not enjoy. However, in the light of the Azores conforming to the 'outermost regions' definition, the Commissioner concluded that the measure met the conditions for being compatible with the common market as set out in Article 87(3)(a) of the EC Treaty and Article 61(3)(a) of the European Economic Area (EEA) Agreement. In its decision, the Commission concluded that aid given to financial services businesses and related "intra-group" activities were unlawful. The Portuguese government appealed this decision.

7.5 The 2006 Azores Judgement

The European Court of Justice (ECJ) in September 2006 dismissed the appeal lodged by Portugal against the Commission's decision. In its decision the ECJ rejected the Commission's interpretation of selectivity when measures apply to an established region within a Member State and thus allowing the possibility that the "reference framework" might not be only the territory of the Member State. The ECJ decision clarified the issue of whether a reduction in tax rates for a region of a Member State contributes State Aid and it also set out three criteria for establishing whether a "tax-autonomous" regional institution is sufficiently independent politically and fiscally from the central government for state aid purposes.

The ECJ stated that a decision by a regional government to reduce tax rates must fulfil the following requirements:

1. It must be taken by a regional authority that has a political and administrative status separate from the central government (i.e. autonomy in the constitutional sense).
2. It must be taken without the central government being able to directly intervene regarding its substance (i.e. procedural autonomy); and
3. The fiscal consequences of a reduction of the national corporate tax rate in the region must not be offset by aid or subsidies from other regions or central government (i.e. economic autonomy).

In the case of the Azores tax scheme, the ECJ considered that the first requirement was fulfilled but that the third, economic autonomy requirement was not. In other words the Court deemed the Azores as not being sufficiently autonomous in financial terms from the rest of Portugal to permit it to be considered the reference framework against which selectivity is determined. The ECJ accepted that some of the tax privileges being granted by the Azores administration were allowable under Article 87(3) and these have continued to operate. The Azores judgement means that, in the opinion of the ECJ, it is possible for a regional government to adopt a lower tax rate without contravening state aid rules. To be able to do so the region must be sufficiently autonomous in relation to the central government.

7.6 The Azores Judgement and the Basque Country.

The Azores judgement has been put to the test subsequently. In September 2008 the ECJ published its judgement in respect of the Basque Country (cases C-428/06). This judgement was sought by the Basque High Court of Justice as to whether the Basque Country meets the three requirements outline in 7.5 above. The ECJ preliminary judgement is that the Basque Country is sufficiently politically autonomous. On the question of whether it is economically autonomous the ECJ did not come to a definitive view. There are financial transfers between the Spanish government and the Basque administration but these are unconnected to the tax scheme under consideration. The matter is to be decided by the Supreme Court of Spain and it is probable that that the national court will confirm that the Basque tax system meets the requirements of the three autonomy tests.

7.7 Regional Tax Selectivity: the Gibraltar Tax Case.

The issues of regional tax competition and regional selectivity have been clarified further by Gibraltar in its efforts to assert its fiscal autonomy within the EU. In July 2002 Gibraltar introduced a comprehensive package of tax reforms, setting a zero tax rate for all businesses and introducing payroll and commercial property taxes capped at 15%. The UK notified these changes to the Commission in August 2002 and a prolonged debate between the Gibraltar government and the Commission got under way. The Commission adhered strictly to Article 87((1) and rejected the Gibraltar tax reforms.[74] Gibraltar challenged the Commission's decision at the European Court of First Instance and in December 2008, the Court found in favour of Gibraltar. The Court stated that the Commission was wrong to argue that the Gibraltar tax reforms breached state aid rules and that Gibraltar did have sufficient political and fiscal autonomy. The significance of this decision for the economy of Gibraltar was underlined by its Chief Minister as follows:

"Had Gibraltar lost the Regional Selectivity case, we would have had to adopt the UK's company tax system and company tax rates. That would result in the bulk, if not all, of the finance centre and gambling companies leaving Gibraltar. That would have meant the loss of thousands of jobs throughout our economy, and a very large fall in government revenue. This in turn would have rendered unsustainable our current level of public services and public sector employment."

7.8 Implications for Northern Ireland

As things stand, Northern Ireland could not pass the autonomy tests resulting from the Azores judgment. Under the terms of the Northern Ireland Act 1998, and its amendments following the St. Andrews Agreements, Northern Ireland does not have the power to reduce corporation tax and is thus not in a position to avail of the regional tax competence approved in the Azores Judgement. As a first step, the Northern Ireland Assembly needs to have such tax varying powers devolved to it from Westminster as outlined in 6.3.1 above. On the

[74] C (2004) 929 fin, 30th March 2004.

expenditure side the transfers to Northern Ireland under the current Barnett formula arrangements would probably meet the "sufficiently autonomous" test as they are not based upon per capita income levels. However, an adjustment would need to be made to the Barnett Formula to deduct the amount of Corporation tax revenues to be transferred to NI. This would meet point 3 of the Azores Judgement, namely that the fiscal consequences of a transfer of tax powers should be neutral and should not include any element of subsidy to the region.

For the sake of completeness we have considered a situation in which direct rule from Westminster might have to be re-imposed. The question would then arise about whether a direct rule administration in NI was sufficiently autonomous to qualify under the Azores judgement as having '*a political and administrative status separate from the central government'.* In principle the devolved administrative and political status should do so, in a situation in which the head of government in NI was a Secretary of State and member of the UK cabinet. If this was not judged to be appropriate the possibility of transferring tax responsibility to NI would not necessarily be closed off, but the UK might need to apply for a derogation from EU tax rules, on the understanding that direct rule was intended to be temporary and that fully devolved government would be restored when circumstances allowed.

8 Conclusions

Although estimation of the likely impact of a reduction in corporation tax must always be hedged about with uncertainty, the clear conclusion of this report is that a reduction in corporation tax to a level of 12.5% would bring substantial benefits to both NI and the UK. There is no doubt in any study that a lower rate of corporation tax would attract a higher level of economic activity to NI and to the UK as a whole. The lesson from the Republic of Ireland is that much of the additional activity would be the form of high-value added activities, since low profits taxes are particularly attractive to highly profitable firms. The only question is whether the cost in tax foregone would outweigh the benefits. Our conclusion is that the cumulative gains would offset the cumulative losses within about six years. There-after there would be a substantial net gain to both NI and to the UK as a whole.

Since EU state aid rules may prevent NI from pursuing its current policy of grant-based attraction of inward and domestic investment from 2013 onwards,.it is important that a new economic development policy be put in place. The only policies with any chance of significant success over this time-scale would be tax-based. Reductions in corporation tax are a tried and tested means of achieving this.

Other questions concern the legality of such a move. Our investigation of the European Court's Azores Judgement strongly suggests that a reduction in corporation tax can be legal within the EU. The only stipulation is that NI would have to take ownership of corporation tax within its borders while fully compensating the treasury for all foregone revenues. Our view is that it should be possible for the Northern Ireland Assembly to take ownership of the revised corporate tax rate whilst handing back the operation and policing of such legislation to HM Treasury and HMRC. Our view is also that the introduction of a NI CT rate within Northern Ireland can be achieved without a significant amount of additional legislation being required.

It should also be possible to at least partially address the concerns arising over the artificial migration of companies to Northern Ireland or the artificial manipulation of profits into Northern Ireland so as to minimise any loss of tax to the UK Exchequer as a result of companies taking unfair advantage of the NI CT rate. The concern of tax motivated incorporations is likely to exist irrespective of the introduction of a NI CT rate. However experience to date, for instance with the Republic of Ireland, would indicate that such profit-shifting is unlikely to be significant and that the contribution to the overall tax receipts from companies at this level is not significant. Estimates of Exchequer losses due to profit shifting from GB could be added into any settlement of the reduction in the NI subvention required to compensate the Treasury. Estimated net losses due to profit shifting are in any case not large enough to prevent a major reform of economic development policy in one of the UK's poorest regions.

Revitalisation of the NI economy should be of great interest throughout the UK given the huge cost to GB tax-payers of financing public services in NI. In the past a single UK-wide corporation tax rate appears to have been seen as an important element of national unity and the Treasury has resisted any discussion of regionally differentiated rates. Our view is that this is short-sighted. A more fiscally flexible UK is the only plausible means of achieving a more regionally balanced economy without the huge transfers that currently undermine the ability of the congested South east of England to construct a fully modern transport and other public infrastructure. Northern Ireland should be seen as the ideal experimental area for reduced corporation tax. If it works as expected, the experiment could advantageously be extended to other poor regions of the UK.

ANNEX The Oxford Economics Corporation Tax Impact Model

1. The modelling work reported in this section was originally carried out by Regional Forecasts Limited (now the Regional Forecasts division of Oxford Economics) who constructed a spreadsheet model to capture most of the major impacts. The model has been modified for this exercise. It is the modified version that is described here.

2. The tax model is constructed at 26 sector level and produces results for:

   - Total employment (employees plus the self employed)
   - Employees (by sector)
   - Gross Value added (by sector)
   - Unemployment
   - Population (total and working age)
   - Migration
   - Tax revenues (Corporation tax plus other major taxes)
   - Public Expenditure costs

   The model is based primarily on published official statistics[75], Oxford Economics forecasts, and a set of plausible assumptions all of which are set out below. The analysis provides a first approximation forecast of the impact of a change in Corporation tax based on robust assumptions about the future. It does not claim to cover the full complexities of the tax system nor the full range of marginal impacts that are likely to flow from a change in the tax system (more complex models would need to be used for this purpose).

3. A key benefit of using this model is that the results are consistent with Oxford Economics Northern Ireland Policy Simulation Model (NI_PS). The NI_PS model is a recently developed model for the Northern Ireland economy, funded by the Department of Enterprise, Trade and Investment, Department of Finance and Personnel, Department of Employment and Learning and the Office of the First Minister and Deputy First Minister. It has been utilised by central and local government in Northern Ireland in recent years for a range of research projects. The model also has the flexibility to adjust the assumptions made and generate results for alternative scenarios.

4. The current (Autumn 2009) forecasts from the NI_PS model are used as a base case assuming unchanged tax policies. The new spreadsheet model generates an alternative scenario based on reducing the headline rate of Corporation tax to 12.5%. The broad approach involves:

   - Projecting increases in foreign direct investment (FDI) into NI at rates predicted by an equation for jobs promoted in new FDI in manufacturing and business services (using data for 2003-9 from fDi Intelligence Ltd.).
   - Projecting additional output and employment in locally owned companies as a result of reinvestment resulting from lower Corporation tax.
   - Calculating knock-on impacts in the wider economy.
   - Assessing the impact of all of these changes for tax revenues including Corporation tax but also income tax, national insurance, benefits and incapacity benefits and VAT.
   - Calculating the impact on employment, unemployment, inactivity and migration.

[75] For consistency with UK modelling, and for a more complete sectoral coverage, Regional Accounts is used as the primary source of GVA and wage data rather than the Annual Business Inquiry. This data is deflated by RFL using official GDP deflators and scaled to the UK total.

- Assessing the implications of labour market and demographic changes for public expenditure.
- Calculating an overall Exchequer fiscal balance taking into account all of the estimated changes to tax revenue and to public expenditure.
- The spreadsheet model is designed to be flexible and easy to adjust and to test scenarios. Forecasts are provided annually to 2030

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Main Assumptions

5. All modelling whether for forecasting future developments or for simulating the effects of changing one or more policies has to incorporate a number of assumptions about the state of the world and other factors that could be important for the analysis. The major assumptions that are used to analyse the impact of a differential rate of Corporation tax in Northern Ireland and the underlying rationale for each are set out below:

FDI flows: Predicting future flows of FDI whether at the global level or for a particular country is a difficult exercise. All of the major sources of information on FDI stocks and flows, including the forecasts from the Economist Intelligence Unit and Columbia University, were originally examined. The model was originally set up to assume that FDI into NI occurred pro-rata with forecasts for the RoI (which themselves depended on extrapolations of FDI in the EU). Although we regard this as a reasonable approach to projecting FDI flows with a 12.5% CT rate, this method was criticised by the Varney Review and has been changed. The revised method reflects recent experience in a dozen small, and mainly peripheral, developed economies.

Tax assumptions: the lack of reliable data for regional tax revenues means that alternative methods have to be employed to estimate these values and that in turn necessitates several assumptions. In the earlier exercise UK ratios of tax to wider economic variables (such as UK Corporation tax to UK Gross Operating Surplus data) were used as the principal method of estimating the Corporation tax take in Northern Ireland. In this exercise we have relied on the Varney Review estimate that CT revenues in NI are in the range 1-1.5% of UK CT revenues (We use a mid-point of 1.25% for the initial reduction). The R&D tax credits system is not separately modelled (this includes child tax credit) and may have influenced the scale of impact.

Profit shifting and transfer pricing: The model outputs ignore the possibility that UK firms in other UK regions cannot redistribute their production to enjoy a lower Corporation tax rate in NI. Diversion of activity from GB to NI would be beneficial for NI but would result in a considerable loss of revenue for the UK exchequer overall as the firms would pay less Corporation tax without necessarily increasing their levels of activity within the UK[76]. In practice such diversion will occur, but this possibility is dealt with outside the main model (see page 44). The same approach is used for profit-shifting, i.e. the model does not take account of the possibility that UK firms in other UK regions do not simply put profits through NI 'virtual' offices. Although this would improve GVA for NI there would be no 'real' impact on the local economy (in terms of local jobs and wages) even though there would be an additional tax take locally but a proportionately larger tax loss for the UK exchequer. Again the issue is dealt with on page 44.

Selective Financial Assistance (SFA) remains: the model assumes no change to policy beyond an alternative Corporation tax rate. As such, Selected Financial Assistance (SFA) remains. SFA is seen as a significant policy tool for Invest NI and in their opinion has proven to be important for attracting new firms and supporting existing firms. If SFA were to cease under a policy of reduced Corporation tax this would have

[76] If lower tax facilitates faster growth in the firm through re-investment into better equipment or staff, the loss may not be as significant. However, it would have a significant detrimental effect on the region from which the re-location occurred.

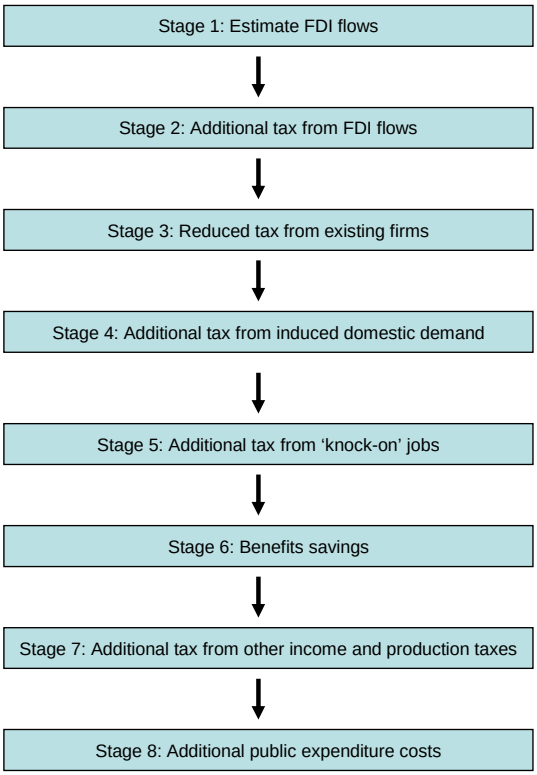
implications for the base projections upon which the NI_PS model is based. How important these effects would be depends on the deadweight element in existing SFA support. If this is low the estimated FDI inflows would be reduced but if it is high this effect would be significantly reduced. Estimates of the impact of SFA are contained in the Independent Review of Economic Policy in NI (IREP) published in September 2009.

Data limitations: many of the official data sources used in this model have in the past contained significant margins of error. While every effort is taken to avoid incorporating errors in the model those arising from errors and discrepancies in official series cannot be completely eliminated.

Structure of the Analysis

6. There are eight stages in the process for assessing the impact of a Corporation tax change on the Northern Ireland economy, these are set out in the diagram below and described in more detail in the sections that follow.

Figure 5.1: Stages of Assessing Corporation Tax Implications



Stage 1: Estimating FDI Flows

7. The revised method used in this report reflects recent experience in a dozen small, and mainly peripheral, developed economies. The equation used to project jobs promoted in new FDI, described in footnote 61 on page 40 of this report. This relates jobs promoted in new FDI to headline rates of corporation tax and wage levels for operatives in manufacturing. The equation is estimated on 12 countries over the period 2003-9. The sectoral distribution of job gains is based on the ROI experience 2003-9, with the majority of jobs coming in the business services sectors. FDI includes only companies new to NI and excludes expansions by foreign-owned companies already in NI. Our data comes from fDi Intelligence Ltd a subsidiary of the Financial Times Group. The data is based on announcements in the media and elsewhere of new investment

projects. About half of the announcements include a statement of intended employment. Where this is lacking fDi use a procedure to estimate the employment. As a check we have compared the FTI estimate of jobs in NI with records from Invest NI. These estimates are substantially the same. In using this data we have assumed that 85% of these proposed jobs are actually created.

Much may depend on the response of the economic development agencies and the relevant government departments. It will be their task to tackle any constraints such as skill shortages that may stand in the way of achieving this target. Our assumption here is that the authorities in NI would respond at least as well, to the new circumstances, as those in the RoI have already done.

8. The approach described in the previous paragraph was used to calculate the number of jobs promoted by new FDI in the firdt year (2010). Actual jobs created are assumed to be 85% of those promoted. The growth of jobs in each sector is based on experience of FDI into the EU over the period 2002-9. We have simplified this to assume a 5% per annum decline in jobs promoted in most manufacturing sectors (25% pa in some labour intensive sectors such as textiles), and a 5% p.a. growth in the service sectors. This leads to a predicted growth in numbers of jobs promoted into the EU of 1-2% p.a. The growth rate of new FDI into NI is faster, at 3-4% p.a. This is because we take the sectoral structure of FDI from recent experience in the ROI where service sector FDI is more heavily weighted than in the EU as a whole.

9. The model assumes that potential new investors will take time to make, and implement, investment decisions. It is therefore sensible to impose a timing lag on NI achieving a pro-rata share of RoI's projected jobs (Table 5.1). The adjustment period used in the model is set out in Table 5.1 below. It is fairly steep consistent with the presumption that maximum effort will be put into exploiting the new tax regime from the outset. A longer run-in period is of course possible, in which case the benefits of the policy change are delayed.

Table 5.1: Percent of Estimated FDI Flows Realised by Year

	2010	**2011**	**2012**	**2013 Onwards**
NI's realised share of estimate job creation	25	50	75	100

Although this method of estimating potential FDI flows to Northern Ireland following a change to the Corporation tax regime is relatively straightforward and the necessary assumptions are transparent it is vulnerable to the charge that it neglects factors other than tax as attractors of FDI. Earlier sections of this report have listed many possibilities such as the availability of skills in the workforce and the quality of the education system. The question in the present context is whether there is a sufficiently large gap between these endowments in low CT economies (including the RoI) and in Northern Ireland, to overwhelm the convergent effects of aligning Corporation tax rates between the two areas. There are pluses and minuses on both sides. The RoI has many years experience of meeting the needs of a sophisticated FDI flow which naturally gives it an advantage but on the other hand their success in itself is producing problems such as rapidly rising labour costs which is undermining competitiveness from a different direction. The difficulty is that many of these effects are nearly impossible to quantify in any meaningful way and there is no obvious way of weighing them up to come to a conclusion that is robust. Based on a simple force field analysis of competing factors in the RoI and Northern Ireland, and assuming future political stability in the latter, it is difficult to see that other than in the area of tax there is a decisive and enduring difference between the two territories from the view point of a prospective investor. In other countries, including Iceland and Estonia, education levels and quality of infrastructure provsion are well below those in NI. In general we assume that policy

in NI will adapt quickly to match standards of vocational training etc, where-ever these are superior to NI.

10. In summary the method used to allocate new FDI flows to Northern Ireland following a change to the Corporation tax rate does not take account of the current structure of FDI flows because these are the product of an entirely different fiscal regime. The new estimates are derived from the experience of small countries where Corporation tax is low. While it is accepted that tax is not the only factor affecting FDI it is assumed to be the dominant factor to the extent that others do not differ to anything like the same degree. In addition it is assumed that a change in the tax rate will not be the end of the matter but a catalyst that will refocus the entire industrial development effort. Thus if there are deficiencies in areas such as skills policy can be changed swiftly to address such issues when a new flow of FDI is in prospect. All forecasts are, of course, vulnerable to sudden shifts in circumstances outside the control of any country and it has to be assumed that the world background remains broadly neutral during the course of this analysis.

11. The results of the FDI flow forecasts are shown in Table 5.2 below. It is clear that Business Services is the key sector for investment accounting for about 90 per cent of long term job flows. This is consistent with world trends for the more developed countries where manufacturing is increasingly focusing on very high value products or those where technical conditions or patent protections ensure an enduring degree of market dominance. New job flows in traditional manufacturing sectors are modest and certainly not sufficient to offset losses among existing companies. The method used to produce these estimates suggests new job creation from FDI at around 5000 per annum in the longer term.

Table 5.2: Cumulative New FDI Jobs Created in Northern Ireland

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Manufacturing - Food, Drink and Tobacco	10	20	50	70	100	130	150	170	190
Manufacturing - Chemicals	50	140	270	440	590	740	890	1020	1150
Manufacturing - Electrical & Optical Equipment	30	90	180	290	400	500	600	690	770
Business Services	330	1010	2090	3600	5180	6840	8590	10420	12350
Other	30	110	190	310	430	530	610	710	800
TOTAL - cumulative	450	1370	2780	4710	6700	8740	10840	13010	15260
TOTAL - annual job creation	450	920	1410	1930	1990	2040	2100	2170	2250

Notes: Business services includes a wide range of activities including Head Quarter functions and call centres etc. Rounded to nearest 10

Stage 2: Additional Tax from FDI Flows

12. Once estimates of FDI job flows are made as described above it is necessary to convert these to the equivalent levels of Gross Value Added. This is achieved by applying the appropriate estimate of productivity per job.[77]. Productivity in new FDI companies is assumed to be twice the NI average in most sectors (this is based upon data provided for the NI_PS model by DETI on GVA per employee in new foreign owned firms). Higher productivity multipliers are also applied in certain sectors as they are likely to attract the profit sensitive elements of production (see Table 5.3 below). This is the only element of the analysis which allows inherently for some element of transfer pricing. The FDI projections also include existing foreign owned firms. New investment in these existing foreign-owned firms share the same assumptions about productivity. However, no allowance has been made for sectors with no projected FDI flows (from Stage 1 above) to increase jobs[78]. In sectors in which NI has few foreign

[77] GVA per employee has been estimated for this model to remove the impact of self employed. This is done by removing self employed estimates by sector from total employment estimates and assuming GVA is on average 76% of sectoral average. This assumption is used as it produces the overall figure for Gross Operating Surplus for NI in 2003 (from Regional Accounts) which is roughly analogous to self employment income.

[78] The weakness of this approach is best typified by the transport equipment sector where NI has a significant foreign owned component but no FDI flows are projected in this sector. Thus the sector does not expand despite the new tax regime. However analysis of initial data suggests profits in foreign owned firms may be relatively low (providing

owned firms the important assumption is that most new activity is in firms that are new to NI.

Table 5.3 Sectoral productivity multipliers

	Productivity multiplier
Manufacturing - Chemicals (10)	2
Manufacturing - Electrical & Optical Equipment (4)	2
Business Services	2
Rest of ecomomy	2

13. A proportion of the additional GVA is allocated to wage costs. This is estimated using sectoral ratios of wages to GVA from Regional Accounts. Interestingly, NI has a higher proportion of GVA in non employment costs – most probably due to lower wages. The obvious inference from this is that profits are higher although higher self employed income may also be a reason. This is set out in the table below.

Table 5.4: Proportion of non wage costs in GVA, 2003

	UK	NI	Difference
Agriculture, hunting, forestry & fishing	67.9	77.9	10.0
Mining & quarrying	25.6	30.3	4.7
Manufacturing	25.4	33.6	8.2
Electricity, gas and water supply	70.2	69.6	-0.5
Construction	50.0	57.2	7.2
Wholesale and retail trade	37.1	43.6	6.5
Hotels and restaurants	31.9	39.5	7.6
Transport, storage and communication	32.1	36.5	4.4
Financial intermediation	56.3	61.8	5.5
Business services	58.3	68.5	10.2
Public administration and defence	14.2	17.4	3.2
Education	7.4	4.5	-2.9
Health and social work	19.2	13.0	-6.3
Other services	38.1	41.9	3.8
Total	35.9	37.9	1.9

Source: Regional Accounts wage costs are 'compensation of employees'

14. The wage cost estimates described above provides a wage per employee in each sector irrespective of ownership. For foreign owned firms this is factored up by 10% for future flows in all sectors. 'Surplus' GVA is calculated as total additional GVA minus the wages element. This approximates to profits. Using UK tax data (from Public Sector Finances publication) the UK's Corporation tax is expressed relative to the same UK 'surplus' to get a ratio of tax to GVA surplus. This ratio is summarised in the table below for recent years, and appears to vary cyclically.

Table 5.5: Corporation tax as a proportion of 'surplus' GVA UK

	2000	2001	2002	2003	2004	2005
Total GVA (£m)	840980	882750	930300	985560	1044170	1087000
Surplus GVA (£m)	308800	318560	342900	368670	395450	411710
Corporation tax take (£m)	33000	33510	28900	28550	31170	37850
Corporation tax as a % of surplus GVA	10.7	10.5	8.4	7.7	7.9	9.2

Source: Table 2.2 Blue Book 2006, Public Sector Finance, August 2006

15. The cyclical behaviour of this proportion is possibly driven by significant profits from the 'City' in London which raises the Corporation tax to GVA surplus rate. The model uses the 2005 figure as the basis for projection. Corporation taxes are assumed to be 9.2%

average wages are assumed). The 'induced' effects discussed later do not apply to foreign firms. To do so would risk double counting.

of 'surplus' GVA. UK Corporation tax receipts are projected to rise to £49bn in 2006/07 giving an estimated return of over 10. We have assumed that this included significant additional profits from the finance sector, and hence is of less relevance in calculating a ratio for NI. This rate is halved to simulate the move to a lower rate of Corporation tax as a first approximation

16. It is important to understand why this somewhat circuitous route to estimating the Corporation tax take in Northern Ireland has been necessary. Prior to 1998 estimates of all of Northern Ireland's shares of the major UK taxes were published each year as part of the accounting for financing public expenditure in the region (the gap between the tax take plus local rates was made up by a 'Grant in Aid'). In preparation for devolution, however, the system was changed and no separate tax estimates are published. Even with the previous system the calculations were always approximate since Inland Revenue (now Revenue and Customs) administrative systems are not geared to producing regional data. The situation with Corporation tax is particularly difficult since tax is often paid for a group of geographically dispersed companies at a single point. There are therefore no reliable and public estimates of the actual Corporation tax take in Northern Ireland.

17. On balance the method used to calculate Corporation tax in Northern Ireland probably overstates the actual amounts. About 96 per cent of firms in the region are small and pay at the 19 per cent rate. However, the remaining 4 per cent are responsible for the bulk of the tax paid. The relative importance of the self employed and the take up of tax allowances between regions can also distort the figure. Finally, the model assumes that FDI firms pay wages that are 10 per cent above the sector average and variations in this premium can also alter the tax estimates.

18. The estimates of additional tax revenue from new FDI flows as a result of changes to Corporation tax are summarised in Table 5.6 below. The main points to note are that additional revenue from FDI flows grows slowly in the initial years as firms take time to react to the new rate. When the model 'settles down' the long run return is around £14m per annum on average.

Table 5.6: Additional tax revenue from new FDI (£m 2003 prices)

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Manufacturing - Food, Drink and Tobacco	0.03	0.10	0.19	0.32	0.44	0.56	0.68	0.80	0.92
Manufacturing - Chemicals	0.30	0.92	1.87	3.16	4.50	5.88	7.29	8.72	10.20
Manufacturing - Electrical & Optical Equipment	0.07	0.22	0.45	0.75	1.06	1.37	1.69	2.02	2.35
Business Services	0.96	3.05	6.45	11.24	16.39	22.00	28.17	35.04	42.34
Other	0.08	0.23	0.44	0.70	0.96	1.20	1.43	1.65	1.87
TOTAL - cumulative	1.45	4.52	9.40	16.17	23.35	31.01	39.25	48.23	57.69
TOTAL - annual tax revenue	1.45	3.07	4.88	6.77	7.18	7.66	8.24	8.98	9.45

*Note: The FDI flows data on which these projections are based include expansion of existing foreign owned firms. This additional tax relates to **both** new FDI flows and expansion of existing FDI in NI.*

Stage 3: Reduced Tax from Existing Firms

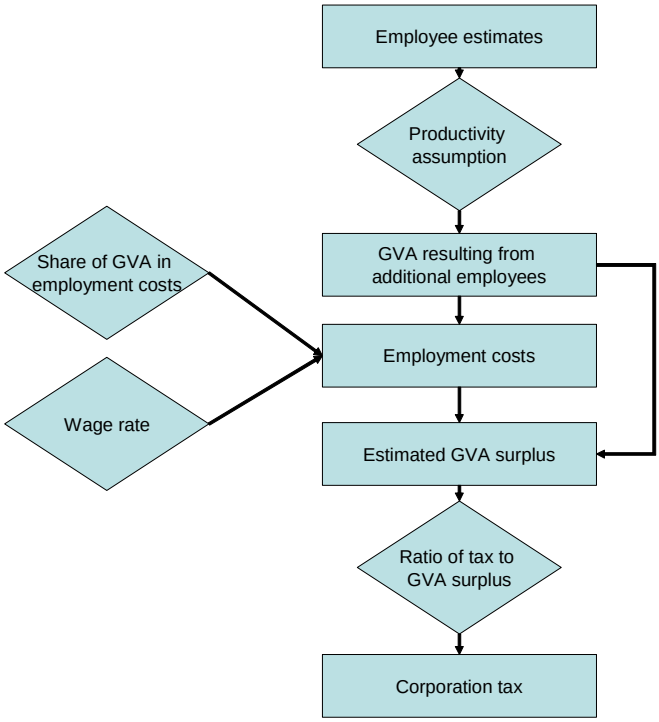
19. Cutting Corporation tax means reducing tax bills for all companies not just new FDI ones. The policy therefore carries with it a cost in the form of lost tax from firms already located in Northern Ireland, both foreign owned and domestic. These losses have to be estimated before the overall tax picture can be known.

20. The calculations for tax losses from existing foreign and domestic firms are done separately using the same approach as described for Stage 2 above. This method can be summarised in a flow chart which for convenience is described as the 'jobs-to-tax calculation'. This is shown below.

21. To estimate employees and GVA in foreign owned firms RFL's estimates of GVA and employees have been split, based on the proportion of each sector's employment/GVA that is foreign owned. The proportion of each sector in foreign ownership data was

provided by Holger Görg of the University of Nottingham based on data provided for this project by DETI. The original data from DETI suggested a lower level of employment in foreign owned firms than is suggested by other sources, notably Invest NI (see box below). However, DETI have reviewed their statistics for this research and have provided new proportions of each sector in foreign ownership. As the box shows, a discrepancy remains between DETI's figures and Invest NI's. We have used DETI's figures in this report but feel that it is important that an attempt should be made to arrive at consistent estimates for foreign employees and GVA. The same caveats as applied to the tax calculations at Stage 2 above also apply in this section.

Figure 5.2: 'Jobs to Tax Calculation'



Box 2: Invest NI data on employment in foreign owned companies.

The following statistic is provided under the 'locate in Northern Ireland' banner of Invest NI's website,

'687 externally-owned companies employing 70,477 people have already set up operations throughout Northern Ireland. Key investors include leading multi-national companies such as Seagate Technology, DuPont, Bombardier Aerospace, Caterpillar, Allstate, Liberty Mutual, ASG , Nortel Networks, Daewoo Electronics, Abbey, BT and Halifax.'

Source: http://www.investni.com/index/locate.htm#topofpage 23rd October 2006

The figure quoted is 10,000 higher than the estimates of employees in foreign owned firms generated by applying DETI's sectoral breakdown of employees in foreign owned companies to sectoral employee numbers (60,600 in 2003).

22. The estimated Corporation tax revenues from foreign owned and domestic firms in Northern Ireland in 2010 (the first year assumed for the new tax regime) are shown in Table 5.7 below. Table 5.8 then shows the estimated tax losses from these firms as a result of a reduction in Corporation tax . The short term tax loss amounts to about £320 million per annum rising slowly over time as employment levels increase.

Table 5.7: Corporation Tax Revenue Estimates from Foreign and Domestic Firms in NI, 2010 (£m)

	Estimated current Ctax revenues 2010	
	Domestic	Foreign owned
Agriculture	6	7
Extraction	1	2
Manufacturing - Food, Drink and Tobacco	20	21
Manufacturing - Textiles & Leather	0	0
Manufacturing - Wood & Wood Products	1	2
Manufacturing - Pulp, Paper & Printing	3	3
Manufacturing - Coke, oil & nuclear	0	0
Manufacturing - Chemicals	1	1
Manufacturing - Rubber & Plastic Products	2	2
Manufacturing - Other Non-Metallic Mineral Products	3	3
Manufacturing - Basic Metals	3	4
Manufacturing - Machinery & Equipment	1	1
Manufacturing - Electrical & Optical Equipment	3	3
Manufacturing - Transport Equipment	1	1
Manufacturing nec	3	4
Electricity, Gas & Water	14	14
Construction	31	33
Distribution	71	77
Hotels & Restaurants	14	15
Transport & Communications	18	19
Financial Services	39	44
Business Services	70	75
Public Admin. & Defence	22	23
Education	3	4
Health	13	15
Other Personal Services	19	20
Total	**443**	**107**
Manufacturing	**55**	**66**

Source: Oxford Economics Model

Table 5.8: Reduced Corporation Tax Revenue Estimates from Existing Foreign and Domestic Firms (£m)

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Reduced Ctax from existing domestic firms	-110	-131	-161	-195	-230	-238	-247	-255	-265
Reduced Ctax from existing foreign firms	-12	-14	-18	-22	-25	-26	-26	-27	-27
TOTAL	**-123**	**-145**	**-179**	**-216**	**-256**	**-264**	**-273**	**-282**	**-292**

Stage 4: Additional Tax from Induced Investment by Locally Owned Firms

23. The additional profits that locally owned firms realise through the tax reduction will be used for a number of purposes including re-investment and personal consumption by the owners in the local economy. In their modelling RFL have assumed that one third of additional profits are used to re-invest in the business one third is spent by the business owners in the local economy and one third is lost to the economy (for example, saved), or spent abroad.

24. Re-investment by foreign owned firms is assumed to be covered in the FDI flows (which, as a result of the nature of the data, include expansions of existing foreign owned firms). A similar 'flow-in' rate is applied as for FDI flows (Table 5.1) as it will take time for firms to assess the situation and put in place developments and thus deliver extra employment output and taxes. To estimate additional employment from increased investment (funded by the profits windfall) a capital stock per employee has been approximated for each sector. This is set at £200,000 for each sector save for utilities which is set at £500,000. Using the capital stock per employee the re-invested profits can be translated into additional employees. Using the standard jobs – tax returns methodology outlined in previous sections, this is translated into extra tax revenues.

25. In addition to the extra profits that are re-invested, an estimate is made of additional jobs created in distribution, hotels and other services (primarily relating to leisure and cultural activities in this instance) as a result of the increased spending in the economy. This is done via the ratio of consumer expenditure to jobs in each sector taken from NI_PS. (The overall multiplier is halved to reflect some ability for existing employment to cope with some extra consumer expenditure and the likelihood of spending on imports).

26. Productivity in the induced jobs is assumed to be the same as the sectoral average. Although the model's capabilities allow for a change to this assumption, there is no evidence to suggest that the induced investment will generate greater efficiency. This may understate the effects as in many cases the money may be re-invested but in equipment rather than labour which could boost productivity. Consideration should be given to adapting the model to allow this form of adjustment and evidence sought as to the likely split between productivity improvements and employment from induced spending.

27. The important use of assumptions about the sectoral composition of capital stocks and the distribution of windfall gains across activities should be noted. If better evidence comes to hand these can be modified. It should also be noted that the current methodology assumes there is no transfer pricing so there are no extra profits declared in domestic firms by switching production or profits from their mainland operations. In reality, this is likely to be relatively minor – the more acute effect of this behaviour might well be in the FDI and foreign owned sector.

28. The estimates of additional induced employment and Corporation tax in the indigenous sector are shown in Tables 5.9 and 5.10 below. Overall around 1000 new jobs are generated in this sector as a result of reinvesting the windfall from reduced Corporation tax rising to about 1500 by 2030. In terms of additional Corporation tax this rises to about £2.8 million per annum over the same period.

Table 5.9: Induced Employment in Locally Owned Firms (000s)

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Induced employment (cumulative)	0.10	0.35	0.79	1.52	2.37	3.26	4.18	5.12	6.11
Induced employment (per annum)	0.10	0.24	0.45	0.72	0.85	0.89	0.92	0.95	0.99

Table 5.10: Corporation Tax in Locally Owned Firms

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Induced Ctax (cumulative)	0.07	0.23	0.53	1.04	1.66	2.35	3.09	3.89	4.73
Induced Ctax (per annum)	0.01	0.02	0.04	0.08	0.13	0.19	0.24	0.30	0.36

Stage 5: Additional Tax from 'Knock-On' Secondary Jobs

29. The additional employment arising from additional new inward investment jobs, both Greenfield and expansion calculated in Stage 1 and the additional induced employment from windfall profits set out above together create further second round or 'knock on' employment processes in the local economy. These are jobs in areas such as construction or retailing that rise to meet increased demand. The multipliers across sectors differ for these effects and are summarised in Table 5.11 below.

Table 5.11: 'Knock on' Multipliers – Jobs Created from an Additional 100 jobs

	Knock on tied to …	Knock on jobs (per 100)
Electricity, Gas & Water	Jobs	0.1
Construction	Jobs	6.0
Distribution	People	6.7
Hotels & Restaurants	People	6.4
Transport & Communications	Jobs	2.8
Financial Services	Jobs	3.8
Business Services	Jobs	3.6
Public Admin. & Defence	Jobs	3.3
Education	People	3.9
Health	People	6.6
Other Personal Services	Jobs	2.1

30. The result of the increased employee jobs (from all three sources – direct, induced and secondary) is to push up employment rates. This in turn attracts in more migrants to fill the vacancies. There will be some extra jobs filled from people currently living in Northern Ireland but initially outside the labour market, that is, those who are currently economically inactive. However, as recent evidence shows, much of the labour supply will come from migrants who apply much less upward pressure on wages and are therefore very attractive to employers. As the employment rate gets higher the number of migrants rises more sharply. The rate of migration is based on the NI_PS model outputs and is set out in Table 5.12.

Table 5.12: Induced Migration from Additional Jobs

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Additional Migration (cumulative)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.24
Additional Migration (annual)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.19

31. As the ripples from the initial new employment spread through the economy the effects become more complex. The extra migrants (of working age) may have children and will eventually age beyond the working age category over the course of the forecast. This is factored into the model as additional claims on future public expenditure. The additional population induces a further round of job creation in retailing, hotels and public services. 'Knock-on' jobs themselves can create further jobs and this is factored

in through a lagged effect. Extra tax revenue is estimated using the same method of jobs to profits calculations. The productivity of the knock-on jobs is assumed to be the same as the sector average. Self employment also rises in response to the growing labour market and this is projected using self employment to employee ratios in the sectors with 'knock-on' jobs

32. Such an inter-laced scenario can obviously be difficult to predict. For example, The role of migrants is hard to assess. It is likely there will be a steady stream of in-migrants (if not, wage increases would potentially choke off investment) to fill additional jobs but it is difficult to be precise on the scale of in-migration. It is also difficult to accurately estimate the knock on multipliers as these can change over time. Those used were originally used in scenario work RFL conducted for the Economic Development Forum using the NI_PS model and are therefore econometrically derived. Finally, there is an inherent assumption that additional public expenditure (see below) is available to fund extra jobs in public services.

33. Estimates of these 'knock on' effects are given in Tables 5.13 and 5.14 below. Around 3,000 jobs per annum are eventually produced through 'knock-on' effects. In the short run job growth is much more modest at under 1,000 each year prior to 2011 reflecting the 'gearing-up' of FDI and induced domestic investment. In tax terms, additional returns rise to £2.8 million per annum in the long run and are, similar to new employment, modest in the short term.

Table 5.13: Additional Jobs from 'Knock-on' Effects

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Knock-on employment (cumulative)	0.11	0.33	0.70	1.23	1.80	2.40	3.01	3.64	4.31
Knock-on employment (per annum)	0.11	0.23	0.37	0.53	0.57	0.59	0.61	0.63	0.67

Note: Including self employment

Table 5.14: Additional Tax from 'Knock-on' Effects

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Knock-on Ctax (cumulative)	0.09	0.29	0.62	1.11	1.66	2.26	2.92	3.63	4.38
Knock-on Ctax (per annum)	0.09	0.20	0.33	0.49	0.55	0.60	0.65	0.71	0.76

Note: No additional self employment returns in Corporation tax

Stage 6: Benefits Savings

34. The extra people attracted into the labour market (other than through migration) to fill the extra jobs created by FDI flows, induced effects and secondary effects reduces the number of people receiving benefits from the tax payer, thus reducing exchequer outlays. To estimate these effects the number of people leaving unemployment and inactivity is projected by apportioning those jobs not taken by migrants. One quarter of these jobs are assumed to be filled by the unemployed. The saving to the exchequer is calculated on the basis of the following average costs from the Department of Social Development's summary of social security statistics 2005;

- Unemployment £60 per week or £3120 per annum
- Incapacity £84 per week or £4368 per annum

35. No reduction in PE costs or employment is estimated in relation to the reduction of the level of benefits paid (e.g. job loss or administrative costs in benefit offices). Also it is difficult to estimate inactivity savings as this includes a range of labour market activities including looking after the home and students who may not receive any benefits. In addition tax credits to the low paid may negate some of the savings from reduced benefit payments.

36. The outcome of the calculations on reduced benefit payments is shown in Table 5.15. The savings are more significant from reduced inactivity, averaging over £10 million per

annum in the long run (it peaks at over £16 million in the medium term). In the long run these savings fall as more labour is sourced through migration flows. Unemployment savings run at a more modest £2.6 million in the long run.

Table 5.15: Reduced Benefits Payments

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Saving from reduced unemployment (cumulative)	0.56	1.76	3.68	6.45	9.42	12.49	15.66	18.90	22.13
Saving from reduced inactivity (cumulative)	2.37	7.39	15.47	27.07	39.57	52.47	65.78	79.40	92.94
Saving from reduced inactivity (per annum)	0.56	1.20	1.93	2.76	2.98	3.07	3.17	3.24	3.22
Saving from reduced inactivity (per annum)	2.37	5.02	8.09	11.60	12.50	12.90	13.32	13.62	13.54

Stage 7: Additional Tax from Other Income and Production Taxes

37. There are a range of other taxes paid by people in employment and by firms and individuals which will also provide extra revenue to the exchequer. In this model these are categorised using the Regional Accounts categorisations, namely:

- Current taxes on income
- Social Contributions
- VAT
- Other taxes (including excise duty, stamp duty, etc)

38. Each of these is estimated in a mechanistic way to give a first approximation of the likely returns from each. They are projected as follows:

- Income tax – on the basis of a ratio of wages paid to income tax receipts from the UK (factored down by 10% to reflect greater level of low income earners in NI).
- Other taxes – on the basis of a ratio to population from the UK and then factored down by 20%. This factor is due to the fact that at present local authority rates and stamp duty returns are lower in Northern Ireland.
- Social contributions – estimated on the same basis as income tax.
- VAT – is estimated by assuming a rate of 17.5% is applied to induced & 'knock-on' GVA. In other words no VAT is assumed to be paid on the additional output from FDI flows (which is assumed to be wholly exported from the UK and to incur no VAT).

The shares are held constant and applied to the NI projection of the relevant element (wages, employment or population) that results from the tax change (and discussed in elements 1 to 6 above). This procedure assumes that on average the NI relationships between the various taxes and the variable to which they are 'pinned' (wages, population, or non FDI GVA) parallel those in the UK. No data was available on NI tax receipts to measure this. In addition, there is always a danger that the ratios may change over time, especially when projecting so far ahead.

39. The calculated additional tax revenue available using these procedures is shown in Table 5.16 below. The additional tax projected is significant rising to over £131 million per annum in the long run. Income tax is the largest element accounting for over two fifths of the total.

Table 5.16: Additional Tax Revenues

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income tax (cumulative)	2.6	8.2	17.3	30.5	45.0	60.5	77.2	95.3	114.5
Other taxes - inc rates / stamp / excise (cumulative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
Social contributions (cumulative)	1.8	5.7	12.1	21.2	31.2	42.0	53.6	66.2	79.6
VAT (cumulative)	0.3	1.0	2.2	3.9	5.8	7.9	10.1	12.6	15.2
TOTAL (cumulative)	**4.7**	**14.8**	**31.6**	**55.6**	**82.0**	**110.3**	**140.9**	**174.2**	**209.8**
Income tax (annual)	2.6	5.6	9.2	13.2	14.4	15.5	16.7	18.2	19.2
Other taxes - inc rates / stamp / excise - (annual)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
Social contributions (annual)	1.8	3.9	6.4	9.2	10.0	10.8	11.6	12.6	13.3
VAT (annual)	0.3	0.7	1.2	1.7	1.9	2.1	2.3	2.5	2.6
TOTAL (per annum)	**4.7**	**10.2**	**16.7**	**24.0**	**26.4**	**28.4**	**30.6**	**33.3**	**35.5**

Stage 8: Additional Public Expenditure Costs

40. The final stage in the analysis involves calculating any additional public expenditure cost pressures as a result of the processes set in train by lowering Corporation tax. Clearly, the additional employment in public services induced by the increased population (as set out in Stage 5 above) will require additional public expenditure to pay the wages of new public sector workers and provide the increased services. A ratio of Public Expenditure (Departmental Expenditure Limits and the Northern Ireland Office) to public services employees (SIC sectors public administration, health and education) is estimated from the NI_PS model (which also provides Departmental Expenditure Limit forecasts). This is then applied to the extra jobs to arrive at an estimate of additional exchequer costs[79]. There are two caveats to this conclusion. First, There may be efficiency gains within the public services and the extra services may not need similar ratios of employees in the future as currently projected. Second, the private sector might provide a greater proportion of the services estimated to be publicly funded in this projection.

41. The calculations for required additional public expenditure are shown in Table 5.16 below. In total the pressure on the Departmental Expenditure Limit (DEL) rises to about £54 million per year in the long run. This is broadly equivalent to the additional income tax receipts generated.

Table 5.16: Additional Public Services Employment and Expenditure

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Additional public services employees (000s) (cumulative)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Additional DEL required (£m) (cumulative)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
Additional public services employees (000s) (per annum)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Additional DEL required (£m) (per annum)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36

[79] Although SIC sectors L, M and N include a non-public sector element, the method is not affected by this as it takes the DEL level per employee in these sectors